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THE EQUINE HOSPITAL PRESCRIBER.

For the Use of Veterinary Practitioners and
Students.

BY

JAMES B. & ALBERT GRESSWELL,

AUTHORS OF 'A MANUAL OF THE THEORY AND PRACTICE OF EQUINE MEDICINE,'
'DISEASES AND DISORDERS OF THE HORSE,' 'THE BOVINE PRESCRIBER,' ETC.

THIRD EDITION

ENLARGED AND REVISED BY

GEORGE GRESSWELL,

M.A. OXEN., L.R.C.P. & S.E., L.F.P.S. G.,

AUTHOR OF 'THE VETERINARY PHARMACOPŒIA,' 'DISEASES AND DISORDERS
OF THE OX,' ETC.

J. A. CARVETH & CO., LIMITED,
TORONTO.

1904

To

THE MEMORY OF THE LATE

MR. ALDERMAN D. GRESSWELL, F.R.C.V.S.,

EXAMINER FOR THE

DIPLOMA OF THE ROYAL COLLEGE OF VETERINARY SURGEONS,

AND

FOR THE ROYAL AGRICULTURAL SOCIETY'S PRIZES,

THIS BOOK

IS, WITH DEEP VENERATION,

INSCRIBED

BY HIS SONS.

P R E F A C E.

THE ready sale of two previous editions encourages us to hope that in its extended and improved form the Equine Prescriber may be of service to the student and practitioner.

When it is realized how useful horses are, it is clear that we owe some special care to the noble creatures who are so willing to do our behests, even when the work is very arduous; and hence we feel great pleasure in briefly indicating some of the measures which are requisite to maintain the health and prevent the occurrence of disease. The pursuit of medical science is one of the most intricate branches of knowledge, and the horizon of our vision of drugs is ever extending and progressing onwards.

Often a little medicine may save a valuable life, so frequently does corporeal existence hang on a fragile thread. If great success is to be attained, our skill must be as perfect as possible, for a little carelessness, wilfulness or ignorance will work havoc or destroy. To say nothing of the damage done by the indiscriminate use of drugs amongst human beings, one cannot but be concerned to think of the numerous horses lost by the use of ill-advised remedies, and even poisons, such as the various

preparations of arsenic, hellebore, sulphate of zinc, sulphuric acid, and so forth.

The experienced surgeon daily engaged in practice has his knowledge always ready, and but seldom needs the help of formulæ. Yet for all of us an occasional reference is useful, and sometimes indeed indispensable, and it is wise to avoid the danger of getting into grooves, especially in the case of so progressive a science as that of therapeutics. Further, although no books can replace that instinctive judgment based on a familiar acquaintance with the actions of medicines which is essential for the able prescriber, they certainly are of great value as aids in maturing such skill, particularly to those who are not conversant with modern lines of treatment of disease.

Should this attempt to facilitate the work of those whose praiseworthy vocation it is to alleviate the sufferings, and, so far as is possible, cure the ailments which are liable to affect the most important of our domesticated animals, be in some degree successful, we shall feel gratified.

It will be obvious that when two or several prescriptions are given under one heading, the different formulæ are to be looked upon as alternative, unless the contrary be specially stated. Selection is to be made after due consideration.

It is hoped that a marked increase of usefulness may result from the revision and enlargement to which the book has been subjected, the new prescriptions being those of Mr. J. B. Gresswell.

GEORGE GRESSWELL, M.A.,
L.R.C.P. & L.R.C.S. E., L.F.P.S. G.

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THE EQUINE HOSPITAL PRESCRIBER.

‘Quum vero intellexero, te hoc scientiæ gaudere, tum et præsens tecum propediem, ut spero, et dum aberis, absens loquar.’—Cicero ‘De Officiis,’ lib. iii., cap. 33.

Acidity of the Stomach.

Draught.

Sulpho-carbolate of sodium, two drachms.

Bicarbonate of potassium, one ounce.

Tincture of ginger, one fluid ounce.

Water to half a pint.

This draught may be given twice daily.

Draught.

Bicarbonate of potassium, half an ounce.

Aromatic spirit of ammonia, one fluid ounce.

Spirit of chloroform, half a fluid ounce.

Tincture of nux vomica, two fluid drachms.

Water to half a pint.

This draught is to be given twice daily.

Draught.

Bicarbonate of potassium, $\bar{z}$ ss.

Tincture of calumba, f. $\bar{z}$ ss.

Bicarbonate of sodium, $\bar{z}$ ss.

Tincture of ginger, f. $\bar{z}$ ss.

Water to half a pint.

Powder.

Bicarbonate of potassium, one ounce.

This powder may be given in the drinking-water, or in the food, twice daily.

Ball.

Carbonate of ammonium	} aa.
Ginger	
Gentian	

These ingredients may be made up with treacle into one ounce balls, and one ball may be given twice daily.

Draught.

Sulpho-carbolate of sodium, two drachms.

Bromide of potassium, one drachm.

Spirit of chloroform, half a fluid ounce.

Water to eight fluid ounces.

Acne.

Lotion.

(a) Solution of subacetate of lead, f. $\bar{z}$ i.

Tincture of arnica, f. $\bar{z}$ i.

Water, f. $\bar{z}$ iv.

(b) Boric acid, $\bar{z}$ ii.

Methylated spirit, half a pint.

Ointment.

Ointment of iodine, or of oleate of mercury, or of red oxide of mercury, or of red iodide of mercury, or of salicylic acid.

Ointment.

Ung. hyd. rub. }
Ung. sulphuris }
Ung. zinci oxidi } aa.

Draught.

Iodide of potassium, two drachms.

Liquor arsenicalis, two fluid drachms.

Water to eight fluid ounces.

This draught may be given twice daily, either in the drinking-water, or in the form of a draught.

Actinomycosis.

This disease occurs in cattle, horses, swine, carnivora, and even man. Chronic indurating glossitis may perhaps sometimes be due to simple hyperplasia of the muscular connective tissue, and not always to the presence of actinomyces or bothriomyces.

The best treatment is to give iodides; for example, iodide of potassium, $\mathfrak{z}$ i.ss., twice daily, dissolved in one quart of water, for about fourteen days.

If it be possible, it may be well in addition to make cross-shaped incisions into the tumours, and paint the exposed parts with tincture of iodine. Iodide of potassium has also been successfully used in human beings for the same purpose.

Albuminuria.

Urine which contains albumin will, if heated, become opaque, owing to the precipitation of that substance. The best plan is to warm the upper two-thirds of the urine in a test-tube. If it contain urates, the heat dissolves them; and if the upper third be then again heated, the albumin is displayed, so that there may be three strata, one showing

undissolved urates, one of clear urine, and one of albumin.

It must be remembered that the earthy phosphates are, in like manner with albumin, precipitated by heat; but they are dissolved by a drop of nitric acid, whereas albumin may become denser and yellow, and is not dissolved.

To test the urine of herbivora for albumin, it is necessary to add a drop or two of acetic acid, in order to render it slightly acid. When a horse is suffering from this condition, try :

Draught.

(a) Solution of perchloride of iron, f. $\bar{3}$ ss.

Sulphate of cinchonine, gr. xl.

Glycerine, f. $\bar{3}$ i.

Water to eight fluid ounces.

This draught may be given twice or thrice daily.

Powder.

Powdered carbonate of magnesium, half an ounce.

Carbonate of iron, two drachms.

Powdered aniseeds, two drachms.

This powder may be given twice daily.

Ball.

Citrate of iron and ammonium, two drachms.

Sulphate of cinchonine, one drachm.

Ginger, gentian, and treacle, sufficient to make one ounce.

Alterative.

Ball-Mass.

Resin, thirty-five parts.

Nitrate of potassium, twenty-one parts.

Sulphur, seven parts.
Gentian, fourteen parts.
Carbonate of iron, seven parts.
Oil of cubebs, one-fourth of a part.
Turpentine and soft-soap, a sufficient quantity.
The dose of this ball-mass is one ounce.

Ball-Mass.

Barbadoes aloes, one drachm.
Calomel, one scruple.
Nitrate of potassium, four drachms.
Venice turpentine, to make one ounce.
Mix well.

Ball.

Aloes, two drachms.
Potassio-tartrate of antimony, forty grains.
Nitrate of potassium, one drachm.
Sulphur and resin, a sufficient quantity.

Powder.

Arseniate of iron, five grains.
Sulphate of iron, one drachm.
Carbonate of iron, one drachm.

This powder may be given once or twice weekly in a bran-mash.

Anæmia.

Should an animal be subjected to great loss of blood as a result of an injury, parturition, internal ulceration, or any other cause, the skin becomes bloodless, and the lips and mucous membranes of a pale pink hue. However, deficiency of the red corpuscles may be due, as above, to

direct loss, or to a defect in their formation (disordered hæmogenesis), or to undue destruction (hæmolysis), which occurs in pernicious anæmia :

Draught.

Citrate of iron and ammonium, two drachms.

Carbonate of ammonia, two drachms.

Tincture of nux vomica, two drachms.

Tincture of capsicum, two drachms.

Water, eight fluid ounces.

This draught may be given twice daily.

Draught.

Sulphate of iron, one drachm and a half.

Sulphate of cinchonine, forty grains.

Diluted sulphuric acid, two drachms.

Water, eight fluid ounces.

This draught may be given twice or thrice daily.

Strong Tonic Draught.

Powdered ginger, four drachms.

Powdered gentian, four drachms.

Powdered capsicum, twenty grains.

Citrate of iron, one drachm.

Aromatic spirit of ammonia, one fluid ounce.

Water to make eight fluid ounces.

Ball.

Arseniate of iron, five grains.

Powdered nux vomica, twenty grains.

Gentian and treacle, or soft-soap, a sufficient quantity
to make a one-ounce ball.

This ball may be given to a horse suffering from anæmia twice daily.

Ball.

Reduced iron, ʒi.

Capsicum, gr. x.

Gentian, ʒii.

Ginger, ʒii.

Treacle, q.s.

This ball may be given twice daily.

Tonic Stimulating Balls for Anæmia.

(1) Powdered ginger, ʒii.

Powdered gentian, ʒii.

Sesquicarbonate of ammonium, ʒii.

Treacle, a sufficient quantity to make one ounce.

(2) Powdered ginger, ʒii.

Powdered gentian, ʒii.

Powdered capsicum, gr. xv.

Ferri et ammonii citratis, ʒi.

Sesquicarbonate of ammonium, ʒii.

Treacle, a sufficient quantity.

(3) Powdered nux vomica, gr. xx.

Powdered ginger-root, ʒii.

Powdered capsicum, gr. x.

Sulphate of iron, ʒi.

Gentian and treacle, a sufficient quantity.

Tonic Powder.

Powdered nux vomica, gr. xx.

Powdered capsicum, gr. xx.

Arsenate of iron, gr. v.

Powdered cinchona, ʒii.

Powdered ginger, ʒii.

Powdered calumba, ʒii.

This powder may be given once daily.

Anæsthetics.

GENERAL.

Chloroform.—From two to four fluid ounces may generally be necessary ; but not uncommonly as much as six fluid ounces may be requisite. The safest method of administering is by means of the chloroform-cap invented by the late Mr. D. Gresswell, or else by Mr. Cox's chloroform-cap. Whilst giving chloroform, the great point is to watch most carefully both the respirations and the pulse. It is best to commence with the vapour diluted with air, by holding the chloroform at first away from the nostrils. When the animal is beginning to be affected, then apply the cap.

Mixture.

Ether, three parts.

Chloroform, one part.

For dogs, it is best to administer either (1) pure ether, or (2) a mixture of one fluid part of chloroform and four fluid parts of ether.

LOCAL.

(1) Hydrochlorate of cocaine, two to four parts.

Water, one hundred parts.

This aqueous solution may be most useful for producing local anæsthesia when it is required to perform an operation on the eye.

(2) Hydrochlorate of cocaine, from four to twenty parts.

Water, one hundred parts.

This stronger aqueous solution may be used for producing anæsthesia, when it is required to perform an operation on some part of the body other than the eye.

Aneurism.

This name is given to a dilatation of an artery, and it may be *fusiform* or *sacculated*, forming a globular projection from one side of the vessel. Aneurisms are due to a weakening of the arterial wall (as by atheromatous change), or, in the case of small vessels, to impacted embolus or tubercle. A frequent cause is excessive muscular strain.

Draught.

Liquid extract of ergot, half a fluid ounce.

Tincture of belladonna, three fluid drachms.

Water, a sufficient quantity.

This draught may be administered twice or thrice daily, if it be found necessary.

Ball.

Iodide of potassium, one drachm.

Calumba-root, four drachms.

Treacle or soft-soap, a sufficient quantity.

This ball may be given twice or thrice daily.

Ball.

Powdered ergot, three drachms.

Extract of gentian, sufficient to make a one-ounce ball.

Angina Pectoris.

This is the name given to a peculiar kind of intense pain in the region of the heart, or in it, coming on suddenly. It is sometimes fatal, and is rarely met with in mankind, and still more so in horses. The drugs generally used for this condition include nitroglycerine, nitrite of amyl, nitrite of

sodium, and cocaine, and must carefully be prescribed in suitable doses if any one of them be given.

(1) Nitrite of amyl, one half to one fluid drachm to be injected hypodermically.

(2) *Drench.*

Chloric ether, one fluid ounce.

Tincture of belladonna, two fluid drachms.

Water, a sufficient quantity to make one pint.

Anthrax, or Splenic Fever, or Charbon, or Malignant Pustule.

This disease is caused by the presence and growth of bacilli in the blood, viscera, and secretions. These bacilli are short, motionless rods, straight or a little curved, and about $\frac{1}{1875}$ inch in length. They become longer and divide, or else produce spores, which become free and grow into rods, and they can resist great extremes of temperature. Anthrax is capable of being propagated by direct inoculation—*e.g.*, the bites or stings of insects, or by the bites of dogs which have been feeding on diseased carcasses. The malady may be caught by grazing on moist, badly-drained land, whereon the micro-organism is growing. By handling the carcasses of infected animals, slaughterers, butchers, or wool-sorters may get the disease, either by inoculation of an abraded surface, or by inhaling dust or particles of wool; and it may also be transmitted to those who consume the flesh of diseased animals. So deadly is this disease, both in animals and human beings, to whom it is readily transmissible, that treatment of animals known to be affected is out of the question. Hence, the only course to be adopted is slaughter and deep burial, with thorough antiseptic precautions, and the litter and manure

should be burnt. The extreme fatality of this malady makes it all the more important that preventive measures should be effectually carried out. It is therefore essential that the food and water should be carefully examined, and to ensure that there be no escape of effete matter into the wells and ponds. It has been held that the germs of anthrax may be contained in mouldy food, such as grains. The affected animals should be at once isolated, the healthy ones carefully watched, and all stables and harness, utensils, fittings, etc., well and effectually disinfected.

Draught.

Sulphite of sodium, two to three drachms.

Salicylate of sodium, two drachms.

Tincture of ginger, half one fluid ounce.

Water, a sufficient quantity.

This draught may be given every three hours.

Draught.

Carbolic acid, twenty minims.

Glycerine, two fluid ounces.

Sulphate of cinchonine, one drachm.

Diluted sulphuric acid, one fluid drachm.

Water, sufficient to make one pint in all.

This draught may be given every six hours.

Powder.

Antifebrin, two drachms, either in powder or in solution. This amount may be given twice daily as a preventive, or in bad cases every four hours. Phenacetin, and creasote suspended in mucilage of starch or gum acacia, and stirred up in a mortar, may be tried in small doses.

Antiseptics.*Draught.*

Liquefied carbolic acid, ten minims.

Sulphate of cinchonine, forty grains.

Diluted sulphuric acid, two fluid drachms.

Glycerine, two fluid ounces.

Water, sufficient to make one pint.

This draught may be administered thrice daily.

Ball.

Sulphite of sodium, two drachms.

Quinetum, one drachm.

Calumba-root, two drachms.

Ginger, one drachm.

Treacle or soft-soap, a sufficient quantity.

Ball.

Iodine, twenty grains.

Ginger, gentian, and treacle, sufficient to make one ounce.

Ball.

Sulphate of copper, six drachms.

Iodine, four drachms.

Ginger, one ounce and a half.

Gentian, one ounce and a half.

Treacle, a sufficient quantity.

Mix and divide into twelve balls, and let one ball be given daily to horses suffering from any of all the forms of pyæmia, etc.

Lotion.

Carbolic acid, one fluid part.

Glycerine, four fluid parts.

Water, twenty fluid parts.

Lotion.

Soft-soap, one pound.

Gas-tar, one pint.

Digest with methylated spirit in sufficient quantity to fill a Winchester quart. The bottle should be well shaken at intervals for two weeks, and then filtered. Two fluid ounces may be added to half a pint of water.

Lotion.

Carbolic acid, two and a half fluid parts.

Soft-soap, one part.

The resulting fluid can readily be mixed with water in any proportion.

Ointment.

Iodoform, twenty grains.

Oil of eucalyptus, thirty minims.

Carbolic acid, twenty minims.

Lard or vaseline, one ounce.

This is a good dressing where the skin does not heal very quickly.

Ointment.

Boric acid, one part.

Vaseline, three parts.

Lard, three parts.

Antispasmodics.*Draught.*

Spirit of nitrous ether, one fluid ounce.

Ether, one fluid ounce.

Tincture of pimento, two fluid ounces, or a corresponding amount of powdered pimento, namely, two drachms.

Tincture of rhubarb, one fluid ounce.

Water to make eight fluid ounces in all.

Mix well. This draught may be given at intervals of one to two hours, as may be thought necessary.

Draught.

Ether, two fluid ounces.

Tincture of opium, one fluid ounce.

Extract of cannabis indica, half a drachm.

This draught may be given in half a pint of linseed-oil, or mixed with warm water or gruel. The dose may be repeated at intervals of two hours, if thought necessary.

Draught.

Hypodermic injection of morphine (B.P.), forty minims.

Water to make four fluid ounces in all.

This draught may be given mixed with water as above, or, if it is preferred to do so, the same amount of the hypodermic injection of morphine may be injected hypodermically.

Draught.

Oil of turpentine, half a fluid ounce.

Ether, one fluid ounce.

Diluted hydrocyanic acid, twenty minims.

Oil of linseed, sufficient to make six fluid ounces in all.

This draught may be repeated after two hours have elapsed, if thought necessary.

Draught.

Ether, two fluid ounces.

Rad. anchusa, a sufficient quantity.

Draught.

Oil of turpentine, half a fluid ounce.

Ether, one fluid ounce.

Essential oils, eight minims.

Hydrocyanic acid, eight minims.

Linseed-oil, three fluid ounces.

Draught.

Oil of turpentine, half a fluid ounce.

Tincture of opium, one fluid ounce.

Spirit of chloroform, one fluid ounce.

Water, sufficient to make ten fluid ounces.

This draught may be again administered after the lapse of two hours, if thought necessary.

Draught.

Tincture of opium, one fluid ounce.

Spirit of chloroform, one fluid ounce.

Aromatic spirit of ammonia, one fluid ounce.

Carbolic acid, ten minims.

Water, sufficient to make ten fluid ounces in all.

Draught.

Spirit of chloroform, one fluid ounce.

Fleming's tincture of aconite, five minims.

Water, sufficient to make six fluid ounces in all.

This draught may be repeated every four hours, if necessary, for three or four times.

Draught.

Hydrate of chloral, two drachms.

Water, sufficient to make six fluid ounces in all.

This draught may be repeated every three hours.

Draught.

Spirit of chloroform, one fluid ounce.

Oil of peppermint, twenty minims.

Oil of cloves, ten minims.

Extract of Cannabis Indica, one drachm.

Diluted hydrocyanic acid, half a fluid drachm.

Simple syrup, sufficient to make eight fluid ounces in all.

Antipyretics.*Draught.*

Nitrate of potassium, one ounce.

Tincture of aconite (B.P.), twenty minims.

Water, sufficient to make six fluid ounces in all.

Draught.

Salicylate of sodium, three drachms.

Spirit of nitrous ether, half a fluid ounce to one fluid ounce.

Water, sufficient to make eight fluid ounces in all.

This draught may be administered every four hours, during the period in which hyperpyrexia exists.

Draught.

Solution of acetate of ammonium, one fluid ounce.

Spirit of nitrous ether, one fluid ounce.

Water, sufficient to make eight fluid ounces.

Draught.

Salicylic acid, two drachms.

Tincture of aconite (B.P.), twenty minims.

Spirit of nitrous ether, half a fluid ounce.

Water, sufficient to make six fluid ounces in all.

This draught may be given every three or four hours during the period in which hyperpyrexia continues.

Ball.

Extract of belladonna, one drachm.

Powdered camphor, two drachms.

Nitrate of potassium, two drachms.

Resin, two drachms.

Mix.

Aperients.—See **Purgatives.**

Apnœa, or **Asphyxia** (cessation of respiration).

Fresh air is necessary. When due to diseases of the lungs, see ‘Lungs’ and also ‘Asthma.’

Apoplexy, Cerebral.—See **Brain.**

Aphtha.

Draught.

Chlorate of potassium, two drachms.

Water, six fluid ounces.

This draught may be given thrice daily.

Draught.

Quinetum, one drachm.

Diluted hydrochloric acid, two fluid drachms.

Glycerine, half a fluid ounce.

Water, to make six fluid ounces in all.

This draught may be given thrice daily.

Gargle (Mild).

Boric acid, one part.

Glycerine, five fluid parts.

Water, eleven fluid parts.

This gargle may be used once or twice daily.

Gargle (Strong).

Permanganate of potassium, five grains.

Water, one fluid ounce.

This gargle may be used once or twice daily.

Gargle.

Acid solution of nitrate of mercury, ℥iv.

Water, f. ʒi.

This gargle may be used twice daily.

Arsenical Poisoning (Acute).

Arsenic is generally given to the horse in the form of the trioxide (As_2O_3), or white arsenic, by labourers or grooms, as a rule, through ignorance of its deleterious effects, in the form of a bolus made up with tar or soap, and sometimes as a powder in the food or water.

In cases of acute poisoning, the respirations are about 35 per minute, the arteries greatly contracted and thread-like, the pulse may be 100 per minute, the temperature perhaps being also a little elevated. The animal purges, and is in great pain, and very restless. The extremities are cold, and the visible mucous membranes injected, the eyes staring, and the pupils dilated. Total loss of appetite and extreme prostration are shown, and eructations of gas occur from the stomach and intestines. A post-mortem examination in a case showed that the endocardium of the left ventricle was highly inflamed and studded with patches

of ecchymosis, and the cavity was full of coagulated blood. The stomach was greatly inflamed and eroded, there were black and dirty yellow patches, eschars, bullæ, and perhaps nearly complete perforations.

Draught.

Hydrated sesquioxide of iron, three drachms.

Water, six fluid ounces.

This draught may be repeated every four hours, for four times or more.

Draught.

Hydrated sesquioxide of iron, three drachms.

Eggs, four.

Brandy, four fluid ounces.

Milk, sufficient to make one pint in all.

Draught.

Hydrated sesquioxide of iron, two drachms.

Gentian, two drachms.

Water, sufficient to make six fluid ounces in all.

Arsenical Poisoning (Chronic).

Ball.

Carbonate of ammonium, two drachms.

Citrate of iron and quinine, two drachms.

Gentian, three drachms.

Treacle or soft-soap, a sufficient quantity.

One ball may be given twice daily.

Ball.

Gentian, two drachms.

Ginger, two drachms.

Carbonate of ammonium, two drachms.

Citrate of iron, two drachms.

Treacle, a sufficient quantity.

Arthritis (Scrofulous).

Draught.

Sulphate of iron, one drachm.

Quinetum or sulphate of cinchonine, half a drachm.

Diluted sulphuric acid, one fluid drachm.

Water, six fluid ounces.

This draught may be given twice daily.

Draught.

Phosphate of iron, one drachm.

Diluted phosphoric acid, one fluid drachm.

Glycerine or honey, one fluid ounce.

Water, six fluid ounces.

This draught may be given twice daily.

Ascarides.

The *Ascaris megalocephala*, or lumbricoid worm of the horse, has a greater number of caudal papillæ than that of the pig or man. The male is about seven inches long, the female about seventeen inches. This worm has a smooth body with transverse rings, and may be in any part of the intestine, though generally in the small. The eggs resist dryness, and it is probable that horses get them by drinking out of ponds containing sewage. The worms may cause enteritis, or, if numerous, even rupture. Look to the water-supply, and pour boiling water on all worms passed. Give nourishing diet. As a rule begin treatment with a brisk cathartic—*e.g.* :

Ball.

Potassio-tartrate of antimony, forty grains.

Barbadoes aloes, one drachm.

Sulphate of iron, two drachms.

Nitrate of potassium, two drachms.

Soft soap, q.s.

Follow up with vegetable tonics and doses of santonin.

Draught.

Liquid extract of male fern, one fluid ounce.

Oil of absinthe, half a fluid ounce.

Oil of turpentine, half a fluid ounce.

Linseed-oil, six and a half fluid ounces.

Draught.

Liquid extract of male fern, half a fluid ounce.

Oil of turpentine, one fluid ounce and a half.

Treacle, four fluid ounces.

Linseed-oil, four fluid ounces.

Draught.

Glycerine of carbolic acid, two fluid drachms.

Ether, two fluid ounces.

This draught may be given in half a pint of gruel.

Ball.

Santonin, thirty grains.

Potassio-tartrate of antimony, one drachm.

Areca-nut, four drachms.

Aloes, two drachms.

Soft-soap, a sufficiency.

Ball.

Aloes, three drachms.

Santonin, one drachm.

Extract of gentian, three drachms.

This ball may be repeated twice, if found necessary or advisable.

Ball.

Potassio-tartrate of antimony, one drachm.

Barbadoes aloes, one drachm.

Sulphate of iron, two drachms.

Nitrate of potassium, two drachms

Soft-soap, a sufficient quantity.

Ball.

Barbadoes aloes, one drachm.

Potassio-tartrate of antimony, one drachm.

Sulphate of iron, two drachms.

Nitrate of potassium, two drachms.

Mix and give one ball daily.

Ball.

Liquid extract of male fern, four drachms.

Barbadoes aloes, two drachms.

Santonin, thirty grains.

Ginger, sufficient to make a one-ounce ball.

N.B.—In the place of the four drachms of liquid extract of male fern, four drachms of powdered areca-nut may be substituted.

Enema.

Oil of turpentine, two fluid ounces.

Mucilage of starch or gruel, one pint.

Ascites (*ἄσκος*, a leather-bag, or wine-skin), *vide* also **Anæmia** and **Debility**.

This is the name given to a collection of liquid in the peritoneal cavity. This condition may be simulated by gas in the intestine (meteorism) to fat in the parietes and omentum, or to some tumour, such as an ovarian cyst. Ascites is often associated with anasarca or general dropsy, and may be due to chronic peritonitis, disease of the walls or valves of the heart, obstruction of the portal circulation owing to disease of the liver, kidney-disease, enlargement or other disease of the spleen, deposits and new formations on the omentum or mesentery. Dulness is manifest on percussion, and fluctuation may be detected. If the malady is renal in origin, iron and tonics may be useful. The iodide of iron or the liq. ferri perchloridi may be recommended. When it is due to cardiac mischief, diuretics and hydragogue purgatives should be tried. In certain cases paracentesis of the abdomen may be necessary.

Draught.

Nitrate of potassium, one drachm.

Tincture of digitalis, three fluid drachms.

Oil of juniper, one fluid drachm.

Spirit of nitrous ether, two fluid ounces.

Water, eight fluid ounces.

This draught is to be given twice daily.

Draught.

Oil of turpentine, one fluid ounce.

Powdered gentian-root, half an ounce.

Powdered ginger-root, half an ounce.

Hot beer, sufficient to make one pint in all.

Asthma.

An animal suffering from this disease is afflicted with paroxysms of dyspnœa, probably produced by spasm of the circular muscles of the smaller bronchial tubes. Hereby a certain degree of obstruction is caused, and hence respiration is often accompanied by a marked wheezing noise. The paroxysmal dyspnœa, being expiratory in nature, is accompanied by a depression of the diaphragm and weakened breathing. There are also sonorous and sibilant râles. It is important to improve the general condition.

Draught.

Tincture of belladonna, one fluid ounce.

Tincture of stramonium, two fluid drachms.

Chloroform, two fluid drachms.

Ethereal tincture of lobelia, half a fluid ounce.

Water, a sufficient quantity.

Hypodermic Injection.

Nitrite of amyl, forty minims.

Inhalation.

Chloroform, half a fluid ounce.

Ether, half a fluid ounce.

Inhalation.

Nitrite of amyl, one fluid drachm and a half.

Astringent Ointment.

Oxide of zinc, one drachm.

Lard, one ounce.

Astringents for Diarrhœa.*Ball.*

Powdered galls, four drachms.

Powdered catechu, two drachms.

Powdered opium, one drachm.

Ginger and treacle, a sufficient quantity to make a ball.

The ball may be given twice or thrice daily.

Ball.

Sulphate of iron, two drachms.

Powdered galls, two drachms.

Powdered catechu, one drachm.

Powdered opium, one drachm.

Treacle, a sufficient quantity.

This ball may be given twice or thrice daily.

Azoturia.

This name is given to that condition of an animal in which there is an excess of the nitrogenous constituents of the urine. To the opposite condition, in which there is a deficiency of those substances, the term 'Anazoturia' has been assigned. Azoturia is due to an accumulation of urea in the blood, and this may be partly the consequence of increased production, and partly due to diminished elimination. The condition, when severe, is characterized by tonic or clonic spasm of the large muscles of the posterior part of the body and limbs, and by the excretion of nitrogenous dark urine of high specific gravity. A purgative should be given, *e.g.*, a full dose of aloes, and enemas administered. Tincture of jaborandi, together with liq. amm. acet., may be very valuable.

If there be much fever, solution of acetate of ammonium

or other febrifuge may be given in the drinking-water. Do not give ammonia, as already the blood has too many nitrogenous waste-products.

Diet should be light, and afterwards more nutritious. A few small doses of nux vomica may be given after the febrifuges.

Draught (Stimulant).

Alcohol, brandy, or whisky, four fluid ounces.

Ether, one fluid ounce.

Water, a sufficient quantity.

This draught may be given every four hours.

Draught (Purgative).

Aloes, in solution, eight fluid drachms.

Linseed-oil, ten fluid ounces.

Hypodermic Injection.

Nitrate of pilocarpine, two grains in solution.

Draught.

Solution of acetate of ammonium, one fluid ounce.

Brandy, four fluid ounces.

Water, sufficient to make eight fluid ounces in all.

Bites and Stings.

These are often of far greater importance than might at first sight seem to be the case. For instance, the bite of a serpent does not make much local disturbance immediately. It is not a large wound in itself, and yet within a few hours, so potent is the poison introduced, death will result in the great majority of cases, unless powerful remedial measures are at once employed. Moreover, there is no doubt that flies and insects are often the channels whereby

infection is conveyed from one animal to another or to man.

Application.

Carbolic acid, one fluid part.

Glycerine, one fluid part.

Application (for Bites by a Rabid Animal).

Carbolic acid, pure, or permanganate of potassium, as below.

Application (for Serpent's Bite).

Permanganate of potassium, either the solid salt in fine powder, or a very strong solution.

The following remarks on the 'Action of Snake-poison in Animals' are taken from a paper in the *Veterinary Journal* for 1886, vol. xxii., pp. 395-399 (by G. Gresswell):

'Some time ago, when engaged in professorial work near Cape Town, M. L. Peringuey and I had occasion to investigate the action of permanganate of potassium as an antidote to the consequences of bites by the venomous snake known in South Africa as the puff-adder. Thinking that the cases might be interesting to the readers of the *Veterinary Journal*, herewith I record some particulars. My friend Mons. Louis Peringuey, who was then lecturer in French, has recently been engaged in important scientific investigations on the Phylloxera. This gentleman, who is also well known for his able contributions to our knowledge of the South African Coleoptera, was anxious to give this salt a thorough trial. My friend, Mr. W. Basil Worsfold, the lecturer in classics, also helped; and he, together

with another colleague (Mr. Hillyard), took the greatest possible interest in watching our proceedings.

‘A dog, the first subject of our experiments, was bitten at about 12 minutes to 10 o’clock a.m. on a certain day, by a puff-adder four times, every time in a different place. The first three bites were with the same fang, the fourth with the other fang. The first bite was on the nose. The wound bled at once. The second bite, which was not a very successful one, was near the seat of the first. The third was on the shoulder, and the fourth, through the ear, with the other fang (the right), bled a little.

‘Immediately after the first bite the animal gave utterance to a distinct moan, as though aware of the sad fate to which, in the interests of science, it had been decided to consign him. Let me add here that the dog, though sufficiently strong, in our opinion, to give us a trustworthy train of symptoms, was not in such a condition as to live with very great pleasure to himself. About five minutes after the first bite the animal’s nose began to swell very noticeably. The following notes were taken by M. Peringuey, Mr. Hillyard and myself :

‘At 9.55 a.m.—The dog is getting very restless and agitated. The nose has swollen to twice its natural size.

‘At 10 a.m.—The bite on the ear has had no apparent effect—*i.e.*, there is no discernible swelling. A foamy, frothy secretion issues from the nostrils. The dog still takes food.

‘At 10.5 a.m.—The swelling of the nose increases. The dog becomes somewhat drowsy.

‘At 10.10 a.m.—The swelling, which is rather hard, has extended from the upper lips as far as the eye ; but any marked tumefaction has not made its appearance in the other seats of injury.

‘ At 10.15 a.m.—The dog now refuses food ; the swelling increases, especially in the sub-labial region. Breathing through the nose becomes still more difficult ; the comatose condition is becoming more extreme. The breathing is very slow (9 in the minute).

‘ At 10.20 a.m.—The swelling is increased. Respirations 9, and laboured, but vary slightly. The swelling shows ecchymoid patches, of a reddish-purple hue.

‘ At 10.25 a.m.—The respirations number 12 per minute, and are laboured. The swelling is still more marked. One hind-leg is stiffened, and apparently partially tetanized.

‘ At 10.29 a.m.—The animal is perfectly helpless, and lies prostrate. The ecchymoid patches are more marked, more purple, and are especially well shown near the teeth. Both hind-legs are slightly stiffened, but movable. The temperature is 99° F.

‘ At 10.35 a.m.—The respirations number 8 per minute. The thermometer stands at $98\frac{3}{5}$ ° F. The blood oozes out, some of the capillary vessels having burst, as a result of engorgement.

‘ At 10.45 a.m.—The animal is still capable of feeling, since an incision, made to obtain a drop of blood, produces pain, which is evidenced by a scream. The tetanus has disappeared. The dog moves, there being, apparently, a temporary revival. The swelling has extended on to the cranium, and is more marked. Respirations 30 in the minute.

‘ At 11.15 a.m.—An incision was made with some sharpness for the purpose of procuring a drop of blood for microscopic examination. It is noteworthy that this incision, unlike the one made at 10.45 a.m., was not felt by the dog. A specimen of blood was then carefully prepared with warm water. No abnormal appearances could

be detected, except that very slight black dots were seen in the red corpuscles.

‘At 11.40 a.m.—Respirations 16 per minute. Ecchymosis far more marked ; much venous engorgement ; eyelids immensely enlarged. The animal is prostrate and quite helpless, complete coma having supervened. The submaxillary and other glands appear to be very slightly enlarged and a little hardened. The swelling is hard and much increased, extending down to the neck.

‘At 12.20 p.m.—Respirations tranquil. They number 18 per minute, and in character are equal one to another. Each expiration is followed by a prolonged inspiration, as in sleep. The dog looks as if under the influence of morphia. From time to time, at long intervals, the animal seems a little bit uneasy, and in consequence changes his position so as to be more comfortably disposed, and then resumes the attitude and appearance of deep sleep.

‘At 2.15 p.m.—The heart has ceased to beat. The animal is dead.

‘The *post-mortem* examination was commenced about 3.45 p.m. When the regions in the neighbourhood of the bites were opened out with the scalpels, the most extensive extravasations of bloody serum were seen. All the tissues of the head and neck were immensely engorged with blood. The heart and other organs seemed to be perfectly normal. The right and left ventricles were entirely devoid of blood.

‘Microscopical examination revealed around the circumferential borders of the red cells several small dark granules. In addition to these peculiarities, there were exhibited a number of very minute rods protruding from the walls of the red blood-cells. These protrusions resembled slightly the appearance presented by the spikes on a horse-chestnut.

‘In this case no preventive measures were taken, but in the second case the efficacy of permanganate of potassium was tested. A second dog was bitten about a week afterwards by the same puff-adder. In this case the bite was also unmistakable; the bite was, in fact, made with some vehemence.

‘At 9.50 a.m.—The dog was bitten on the internal aspect of one hind-leg.

‘At 9.55 a.m.—He was again bitten in the nose.

‘At 10.15 a.m.—We injected subcutaneously, under the skin of the nose, and in other places, sixty minims or more of very strong, freshly-made solution of permanganate of potassium.

‘At 10.30 a.m.—The dog became uneasy, frequently shaking his head and changing his position.

‘At 10.43 a.m.—No apparent sign of injury.

‘At 12.15 p.m.—The dog is *sleeping* gently, but apparently is not very much out of sorts.

‘The dog made a complete and permanent recovery. The seat of the bite was marked for several days afterwards by a slight local swelling.

‘Permanganate of potassium (KMnO_4) is, in my opinion, one of the most valuable therapeutic agents we possess. Whatever may be thought of the value of one striking case, such as that above-mentioned, as evidence that the salt has antidotic power in connection with snake-poisoning by the puff-adder, there is abundant evidence from many quarters of its general trustworthiness as a disinfectant. It has been employed as an antidote to the venom of other snakes, but I cannot at this moment specifically refer to the recorded observations. For my part, I feel absolutely certain that an antidote might be found, by extensive and painstaking research, to all kinds of snake-poisoning; and I can only

regret that other work of more pressing importance kept my time so much occupied at the Cape that I could not devote the time and attention to this subject which it so urgently requires. From every point of view, information on this subject would be most valuable, especially now that the whole question of blood-diseases is being re-investigated from an entirely new aspect. Let me extract from Dr. Brunton's valuable work the following notes: "Permanganate of potassium very readily parts with its oxygen, and thus destroys organic matter. When mixed with *cobra poison*, it completely destroys its deadly power. The mixture may be injected subcutaneously without any bad effects. When injected after the poison, however, it does not appear to come into such immediate contact with it in the tissues as to destroy the poison, and therefore the salt does not act as an antidote."

'With this last observation the above case does not seem to accord. My opinion is that the antidotic power of the salt would be marked, provided it were injected in sufficient strength and at a sufficiently early period. Firstly, the solution must be very strong, and in sufficient quantity; secondly, it must be injected as near as possible to the seat of injury, as well as in other parts; and, thirdly, in order to be effectual, it must be injected as soon as possible after the bite. It may be mentioned that the salt is used largely as a disinfectant in many ways. In cases of eczema it is employed to wash the nose, in mercurial stomatitis, and in diphtheria.

Application (for certain cases of bites and stings).

Strong acetic acid.

Black Oil.

Linseed-oil, one pint.

Oil of turpentine, four fluid ounces.

Mix well, and add carefully :

Sulphuric acid, six fluid drachms.

Bladder (Irritable).*Draught.*

Bicarbonate of potassium, one ounce.

Tincture of opium, one fluid ounce.

Water, a sufficient quantity.

This draught may be given thrice daily.

Bladder, Inflammation of the (Cystitis).

This disease is not very often met with in the horse. It may be produced by the administration of cantharides or turpentine or croton oil, or by the absorption of cantharidine from a blister ; or again, it may be set up by the presence of calculi or morbid growths in the bladder. The malady causes great restlessness, intense discomfort and pain, and although the horse tries to pass water frequently, it only succeeds in doing so with great difficulty.

If there be any blistering agent, wash it off at once. Begin treatment with a mild purgative, and follow on with opium, hyoscyamus, or belladonna. Buchu and copaiba, with saline purgatives, are sometimes useful, and in certain cases very small doses of mineral acids and iron may be tried.

Draught.

Tincture of aconite (B.P.), twenty minims.

Tincture of opium, one fluid ounce and a half.

Bicarbonate of potassium, half an ounce.

Water, a sufficient quantity.

This draught may be given thrice daily.

Bladder, Inversion of the (in Mares).

Empty the bladder by means of gentle pressure, and thoroughly cleanse the prolapsed part ; place the animal with the hind-quarters at a higher level than the fore part of the body, and apply a twitch. First inject a warm 3 per cent. solution of alum, or a 2 per cent. solution of tannic acid.

If the urethra be wide, the bladder can be replaced with the hand ; but if this method is not practicable, procure a stick with a suitable blunt rounded head, or a probang, and, by means of gradual pressure with this, pass the bladder back through the urethra.

If the mucous membrane has become necrotic, amputation may be requisite.

Bleeding.

Draught.

Tincture of perchloride of iron, one fluid ounce.

Glycerine, two fluid ounces.

Water, seven fluid ounces.

Draught.

Liquid extract of ergot, half a fluid ounce.

Diluted sulphuric acid, two fluid drachms.

Tannic acid, three drachms.

Water, eight fluid ounces.

Hypodermic Injection of Ergotin (B.P.).

Forty minims.

Local Application.

Solution of perchloride of iron.

Local Application.

Tincture of hamamelis, four fluid drachms.

Water, one fluid ounce.

Draught.

Oil of turpentine, half a fluid ounce.

Fluid extract of ergot, half a fluid ounce.

Tincture of perchloride of iron, one fluid ounce.

Water, sufficient to make six fluid ounces.

This draught may be given twice or thrice daily.

Applications.

(1) Solution of perchloride of iron.

(2) Tannic acid or tannin.

(3) The actual cautery.

Bleeding (Post Partum).*Draughts.*

Some of those mentioned under the preceding heading may be most useful.

Draught.

Liquid extract of ergot, one to two fluid ounces.

Hypodermic Injection of Ergotin (B.P.).

Forty to sixty minims.

Local Applications.

(1) Tannin.

(2) Wet calico towels.

- (3) Tincture of perchloride of iron, one fluid part.
Water, nine fluid parts.

Blisters.—See **Counter-irritants.**

Bog-Spavin (in Early Stage).

Lotion.

Solution of subacetate of lead, one fluid part.
Tincture of arnica, three fluid parts.
Water, six fluid parts.

Lotion.

Chloride of ammonium, one part.
Nitrate of potassium, one part.
Water, twelve fluid parts.

Bog-Spavin (in Later Stages).—*Vide* **Counter-irritants** and **Blisters.**

Boils.

Draught.

Liquor arsenicalis, two fluid drachms.
Bicarbonate of potassium, one ounce.
Water, sufficient to make eight fluid ounces in all.
This draught may be given twice daily, and, if preferred,
it may be mixed with the water used for drinking.

Poultices.

Carbon and hot bran.

Lotion.

Sanitas fluid, one fluid part.
Water, six fluid parts.

Lotion (to arrest Inflammation in the Early Stages).

Nitrate of silver, one drachm.
Water, three fluid ounces.

Ointment (to promote Healing).

Iodoform, twenty grains.

Oil of eucalyptus, thirty minims.

Carbolic acid, twenty minims.

Vaseline or lard, one ounce and a half.

Bone-Spavin.—See **Spavin**.

Bots.

Draught.

Oil of turpentine, one fluid ounce.

Linseed-oil, nineteen fluid ounces.

Draught.

Glycerine of carbolic acid, two fluid drachms.

Sulphuric ether, two fluid ounces.

Linseed-oil, six fluid ounces.

Draught.

Sulphuric ether, two fluid ounces.

Carbonate of sodium, six drachms.

This draught should be given in water when the animal's stomach is empty.

Draught.

Sulphuric ether, two fluid ounces.

Oil of turpentine, one fluid ounce.

This draught should likewise be given to an animal when the stomach is empty.

Bowels, Inflammation of.—See **Enteritis**.

Brain : **Apoplexy**, or **Cerebral Hæmorrhage**.

A cathartic should be given. When the coma is attended by strong cardiac action, bleeding is advisable. Apply cold to the head and elevate it. Give stimulants by means of enemata.

Brain : Hydrocephalic Foals.

As a rule, they should not be reared, as they never thrive well.

Brain, Inflammation of the (Encephalitis).

For this disease rest and absolute quiet are most essential. The horse should be placed in slings. If there be much fever and excitement, it is advisable to bleed, and a cathartic should be given at once. Cloths steeped in cold water or in evaporating lotion should be applied to the head, or in some cases it may be advisable to blister the poll. The remedies usually employed are bromides or chloral, liq. ammon. acet., and bicarbonate of potassium.

Brain : Megrims, or Cerebral Hyperæmia.

Remove the collar, and then apply cold water to the head. It may be well to use a breast-strap in the place of the collar.

Broken Knees.*Ointment (Antiseptic).*

Iodoform, twenty grains.

Oil of eucalyptus, twenty minims.

Carbolic acid, twenty minims.

Vaseline, one ounce and a half.

Lotion (Antiseptic).

Carbolic acid, one fluid part.

Water, twenty fluid parts.

Lotion (Antiseptic).

Salicylic acid, one ounce.

Boiling water, one gallon.

Allow the solution to cool, and then use it for soaking the horse's bandages in.

Lotion (Antiseptic).

Boric acid, one part.

Hot water, twenty-one parts.

Lotion (Antiseptic).

Sanitas fluid, one part.

Water, nine parts.

Draught (if the temperature be high).

Salicylate of sodium, three drachms.

Water, six fluid ounces.

This draught may be administered every six hours.

Broken Wind.*Draught.*

Liquor arsenicalis, f. ʒiii .

Tincture of nux vomica, f. ʒii .

Bicarbonate of potassium, ʒss .

Water, sufficient to make eight fluid ounces.

This draught may be administered twice daily for a week or two weeks, and then once daily for a similar length of time.

Ball.

Powdered digitalis, gr. xx.

Extract of belladonna, ʒi .

Barbadoes aloes, ʒi .

Gentian, ginger, and treacle, or soft-soap, in sufficient quantity to make an eight-drachm ball.

Ball.

Calomel, ʒss .

Digitalis, gr. xx.

Opium, gr. xxx.

Camphor, gr. xxx.

Ginger, gentian, and soft-soap or treacle, in sufficient quantity to make a one-ounce ball.

Bronchitis (Acute).

The signs of this disease are :

(1) Weakened respiratory sounds. The diminution in the sounds occurs at different places, and shifts about. It never lasts long at any given spot.

(2) Sibilant rhonchi, and mucous râles. It is well to bear in mind that this malady is bilateral, and therefore if the signs are not bilateral in any given patient, it cannot be a case of simple bronchitis. The pleuritic râle is, as a rule, unilateral. If the bronchitis be severe, there is inspiratory dyspnœa. The percussion-note may be impaired for a few days over a part or the whole of the lung.

The bowels should be regulated with linseed-oil, and by enemata. Liniments or blisters may be applied to the sides of the chest. The inhalation of steam medicated with carbolic acid or eucalyptus is a useful measure. When the cough is severe, a draught of camphor and hyoseyamus, with a little morphia twice daily, is useful. At a later stage, tonics, *e.g.*, quinine, nux vomica, in very small doses, gentian, sulphate or carbonate of iron, and, if necessary, camphor in addition in some cases may be considered.

Draught.

Liq. amm. acet., f. $\bar{3}$ iii.

Sp. ætheris nitrosi, f. $\bar{3}$ ss.

Sp. camphoræ, f. $\bar{3}$ i.

Tinct. scillæ, f. $\bar{3}$ ss.

This may be given thrice daily in eight fluid ounces of water. When the disease has become more chronic,

camphor, squills, hyoscyamus, digitalis, morphia, extract of belladonna, or hydrocyanic acid in small doses may be tried in various combinations ; but we append under that heading exact formulæ.

Draught.

Solution of acetate of ammonium, four fluid ounces.

Tincture of aconite (B.P.), ten minims.

Spirit of nitrous ether, one fluid ounce.

Water, sufficient to make eight fluid ounces in all.

This draught should be given every six hours.

Draught.

Tincture of digitalis, two fluid drachms.

Bromide of potassium, two drachms.

Spirit of nitrous ether, one fluid ounce.

Water, sufficient to make eight fluid ounces in all.

This draught should be given thrice daily.

Ball.

Squills, one drachm.

Tartar emetic, half a drachm.

Powdered ipecacuanha, one drachm.

Nitrate of potassium, one drachm.

Gentian and soft-soap or treacle in sufficient amount to make a one-ounce ball.

This ball may be given thrice daily.

Ball.

Extract of belladonna, one drachm.

Powdered digitalis, half a drachm.

Treacle and ginger, a sufficient quantity.

Inhalation.

Chloroform, one drachm.

Boiling water, one pint.

Counter-irritant (for the throat), see 'Counter-irritants.'

Bronchitis (Chronic).*Draught.*

Spirit of chloroform, one fluid ounce.

Carbonate of ammonium, two drachms.

Tincture of nux vomica, two fluid drachms.

Water, sufficient to make six ounces in all.

This draught may be administered twice daily.

Draught.

Chloride of ammonium, two drachms.

Nitrate of potassium, two drachms.

Tincture of belladonna, four fluid drachms.

Tincture of gentian, one fluid ounce.

Water, sufficient to make eight fluid ounces.

This draught may be given twice daily.

Draughts (*vide* also 'Anæmia').

Ball.

Carbonate of ammonium	} aa.
Ginger	
Gentian	

Treacle, a sufficient quantity.

This mass must be well mixed, and then made up into one-ounce balls, one of which may be given twice daily.

Ball.

Carbonate of ammonium, two drachms.

Camphor, one drachm.

Powdered nux vomica, half a drachm.

Gentian and treacle, a sufficient quantity to make a one-ounce ball.

This ball may be given twice daily.

Bronchocele, or Goitre.

The patient should be removed from the locality where the disease occurs. The malady is probably due to a micro-organism which grows especially over certain rock-formations in limestone or magnesian limestone districts.

In regard to treatment, iodide of potassium with tincture of iodine should be given internally, or the vapour of iodine inhaled. To the tumour itself, tincture of iodine should be applied. In some cases, the ammonio-citrate of iron is very useful.

Draught.

R. Potassii iodidi, ℥ii.

Tinct. gentianæ, f. ℥ii.

Aquæ ad f. ℥vi.

Give twice or thrice daily.

Burns.—See **Cooling Lotions.**

Application.

Solution of lime } equal parts.
Olive-oil }

Lotions and Ointments (see 'Antiseptics').

Ointment.

Ointment of boric acid, one part.

Vaseline, two parts.

Bursatee.

This disease is probably due to a vegetable parasite belonging to the hypomycetes. It is characterized by

peculiar growths called 'kunkers,' which after a time ulcerate.

The sores should be dressed with antiseptics, such as solution of perchloride of mercury, or sulphurous acid, or tincture of iodine, or eucalyptus, or carbolic acid. The tumours should be totally excised, or removed by the actual cautery, and the wounds dressed with sulphate of copper.

Calculi, Biliary.

Draught.

Chloride of ammonium, two drachms.

Bicarbonate of sodium, one ounce.

This draught may be given in the drinking-water, or as a draught, and may be repeated twice daily.

Hypodermic Injection (in Case of Great Pain).

Injectio morphinæ hypodermica, forty minims (B.P.).

Ball.

Aloes mass, six drachms. For prescription, see 'Purgatives.'

Calculi, Urinary.

Draught.

Bicarbonate of potassium, one ounce.

Benzoate of ammonium, one ounce.

Water, eight fluid ounces.

This draught may be given twice daily.

Draught.

Diluted hydrochloric acid, four fluid drachms.

This draught may be given twice daily in the drinking-water.

Draught.

Strong hydrochloric acid, four fluid ounces.

Water, sufficient to make sixteen fluid ounces.

The dose of this mixture is one fluid ounce mixed with the drinking-water each day.

Draught.

Iodide of potassium, two drachms.

Solution of hydrate of potassium, one half of a fluid ounce.

Water, sufficient to make one pint in all.

This draught may be given once each day.

Cancerous Growths.

Antiseptic Applications (see 'Antiseptics').

Canker of the Foot.*Local Applications.*

(1) Acid solution of nitrate of mercury.

This solution may be applied once, and after four days' time it may be repeated. In the meantime the foot may be dressed with the following preparation :

Carbolic acid, one part.

Glycerine, one part.

(2) *Canker ointment* :

Sulphate of copper, six drachms.

Subacetate of copper, six drachms.

Nitrous acid, six fluid drachms.

Creasote, six fluid drachms.

Mix, and add Stockholm tar so as to make six ounces in all.

This same ointment may also be used in cases of foot-rot.

- (3) Strong acetic acid, four fluid ounces.
Hydrochloric acid, two fluid ounces.
Nitric acid, one fluid ounce.
Mix, and apply daily (Professor Brown).

Capped Hock.

Ointment of red iodide of mercury.
See also 'Counter-Irritants.'

Cataract.

Lotion.

Sulphate of atropine, four grains.
Water, one ounce.

A few drops of this lotion may be placed on the corner of each eye.

Catarrh and Coryza.

If there be constipation, enemata of hot water, and if necessary two drachms of aloes may be indicated.

Draught.

Solution of acetate of ammonium, four fluid ounces.
Bicarbonate of potassium, half an ounce.
Spirit of chloroform, half a fluid ounce.
Water, sufficient to make eight fluid ounces in all.

In the above the nitrate or the chlorate of potassium may be used instead of the bicarbonate, also the compound tincture of camphor instead of the spirit of chloroform. The draught may be given twice or thrice daily.

Inhalation.

Carbolic acid, one fluid drachm.
Ether, half a fluid ounce.
To be added to hot water.

Local Application to Throat.

(1) Liniment of ammonia and turpentine, or

(2) Liniment of camphor.

N.B.—For chronic nasal catarrh it is best to try iodides and tonics.

Cathartics.—See **Purgatives.**

Cathartic Balls.

Ball.

(1) Barbadoes aloes, six pounds.

Rectified spirit, half a pint.

Soft-soap, half a pound.

Melt together in a water-bath, and add :

Oil of peppermint, two fluid ounces.

Mix. The dose is from one drachm to one ounce.

Ball.

(2) Calomel, one drachm.

Powdered opium, one drachm and a half.

Flour and glycerine, one ounce.

Mix. Only one dose is to be given.

Caustic Dressing.

Lotion.

Nitrate of silver, one drachm.

Water, sufficient to make twelve fluid ounces.

Cerebro-spinal Fever.

If practicable to do so, it is as a rule best to sling the horse at once. The extremities should be kept warm. Aloes, together with salines, may be given, and belladonna is frequently very useful, and a good method of administering it is by hypodermic injection of sulphate of atropine.

At a later stage vegetable tonics with iodine or iron may be tried, and quinine may be of value. The spine may be rubbed with embrocations.

Chorea.

In some cases the treatment should be similar to that of rheumatism. Bromides are very useful, and small doses of Fowler's solution have proved advantageous. Follow up with iron or with vegetable tonics.

Draught.

Bromide of potassium, two drachms.

Spirit of chloroform, one fluid ounce.

Water, sufficient to make eight fluid ounces in all.

This draught may be given twice or thrice daily.

Draught.

Hydrate of chloral, three drachms.

Tincture of belladonna, half a fluid ounce.

Water, sufficient to make six fluid ounces in all.

This draught may be given twice or thrice daily.

Draught.

Fowler's solution, two fluid drachms.

Bicarbonate of potassium, half an ounce.

Water, sufficient to make eight fluid ounces in all.

This draught may be given twice daily.

Chronic Nasal Catarrh.

Lotion.

Sulpho-carbolate of zinc, one drachm.

Water, three fluid ounces.

This lotion may be injected twice daily.

Powder for Insufflation.

Iodoform, one part.

Starch, two parts.

About one drachm may be injected through a nasal insufflator twice daily.

Fumigation.

Sulphur, one ounce.

Tincture of iodine, half a fluid ounce.

Mix these together, and place the mixture in small portions on a pan containing hot coals.

Ball.

Iodine, twenty grains (up to even as much as one drachm).

Powdered ginger	}	Of each a sufficient quantity required so as to make a fair- sized ball.
Powdered gentian		
Treacle		

Colic (Flatulent).

If there be very great distension with gas, the colon may be punctured with a very fine trocar about six inches long. Tincture of asafœtida is said to be beneficial.

Draught.

Tincture of opium, one fluid ounce.

Spirit of chloroform, one fluid ounce.

Aromatic spirit of ammonia, one fluid ounce.

Carbolic acid, ten minims.

Water, sufficient to make eight fluid ounces in all.

This draught may be repeated after an interval of an hour, and then every two or three hours, if found necessary, for three or four times.

Draught.

Sulpho-carbolate of sodium, half an ounce.

Bromide of potassium, two drachms.

Spirit of chloroform, one fluid ounce.

Water, to make eight fluid ounces in all.

Draught.

Oil of turpentine, four fluid drachms.

Solution of sesquicarbonate of ammonium, four fluid ounces.

Solution of bicarbonate of potassium, sufficient to make ten ounces in all.

N.B.—In addition to this draught, and if thought advisable, mixed with it, ten fluid ounces of castor-oil or ten fluid ounces of linseed-oil may be administered.

Draught.

Chloric ether, one fluid ounce.

Solution of sesquicarbonate of ammonium, four fluid ounces.

Sulphuric ether, two fluid ounces.

Water, or solution of carbonate of sodium, sufficient to make one pint in all.

Draught (Extra Strong Colic Drench).

Sulphuric ether, two fluid ounces.

Nitric ether, two fluid ounces.

Solution of aloes, two to four fluid ounces.

Powdered pimento, half a fluid ounce.

Water, sufficient to make one pint or one half-pint in all.

Draught (Antispasmodic).

Oil of turpentine, half a fluid ounce.

Ether, one fluid ounce.

Oil of cinnamon, ten minims.

Diluted hydrocyanic acid, ten minims.

Linseed-oil, sufficient to make six fluid ounces.

This draught may be given at intervals of one to two hours, as may be necessary, gruel being substituted for the linseed-oil after the first draught.

Draught.

Oil of turpentine, half a fluid ounce.

Tincture of opium, one fluid ounce.

Spirit of chloroform, half a fluid ounce.

Water, sufficient to make ten fluid ounces in all.

This draught may be repeated in two hours' time, if thought to be necessary.

Draught.

Spirit of chloroform, one fluid ounce.

Tincture of aconite (B.P.), twenty minims.

Spirit of nitrous ether, one fluid ounce.

Water, sufficient to make six fluid ounces in all.

This draught may be repeated every four hours for four times, if it is deemed necessary or advisable to do so.

Draught.

Brandy or whisky, six fluid ounces.

Aromatic spirit of ammonia, two fluid ounces.

Water, sufficient to make twelve fluid ounces.

N.B.—All diffusible stimulants may be employed in cases of this disorder.

Colic (Spasmodic).

Whilst flatulent colic is caused by the presence of gases in the intestine, spasmodic colic is due to spasmodic contraction of the walls of the bowel, and this affection may terminate in enteritis. The causes are dietetic errors, intestinal obstruction due to displacement, impaction of calculi or other concretions, worms, poisons, cold and damp, or organic disease of the intestine, peritoneum, kidneys, liver, or pleura. In all cases, except when diarrhœa is present, begin with the administration of an aloes ball and with enemas, and repeat the latter every two or three hours. To the enema aloes or oil may be added. Should the pain be severe, give one and a half fluid ounces or two fluid ounces of sulphuric ether, with two fluid ounces of spirit of nitrous ether, in gruel or water every two or three hours as long as the pain lasts. For the pain, inject hypodermically forty minims of inj. morph. acet., or give two or three fluid ounces of tincture of opium, and, if necessary, repeat with about half the dose after two hours. Give a draught of

Tinct. opii, f. ʒss.,

Sulphuric ether, f. ʒss.,

Spirit of chlorof., f. ʒss.,

every two, three, or four hours, according to the amount of pain, so long as requisite. Finally, do not forget the value of hot fomentations and liniments.

Colouring Mixture.

(1) Powdered coccus cacti (cochineal), one ounce.

Strong solution of ammonia, one fluid ounce.

Water, sufficient to make one pint.

(2) Soft-soap, one pound.

Water, sufficient to make one gallon.

Add solution of aloes, one fluid ounce.

Strong solution of ammonia, one fluid ounce.

Condition Powders.

Powder.

Sulphur, two parts.

Nitrate of potassium, two parts.

Powdered gentian, half a part.

Fenugreek, two parts.

Carbonate of iron, one part.

Aniseed, one part.

One ounce of this powder well mixed together may be given once daily in the food.

Powder.

Milk of sulphur, two parts.

Nitrate of potassium, two parts.

Fenugreek, two parts.

Armenian bole, one part.

Powdered aniseed, one part.

Gentian, half a part.

Ginger, half a part.

One ounce may be given daily in the food.

Congestion of the Lungs.

This is the stage which precedes true inflammation. When in this condition the lung is heavy, reddish-brown, and exudes a frothy reddish serum on pressure. It breaks down more readily than a healthy lung. The capillaries are dilated and tortuous, owing to distension with blood, and minute hæmorrhages may be present. There is only one marked sign of this affection, and that is accentuation of the second sound over the pulmonary artery.

Draught (Stimulant).

Aromatic spirit of ammonia, one fluid ounce.

Brandy or whisky, four fluid ounces.

Water, four fluid ounces.

This draught may be given twice at an interval of one hour, and then every two hours.

Draught.

Aromatic spirit of ammonia, two fluid ounces.

Tincture of capsicum, half a fluid ounce.

Brandy, sufficient to make eight fluid ounces in all.

Draught (Febrifuge—in Cases of Secondary Pneumonia).

Solution of acetate of ammonium, four fluid ounces.

Fleming's tincture of aconite, five minims.

Brandy, four fluid ounces.

Water, two fluid ounces.

This draught may be given once, and then every two hours for three times, and then every four hours for three or four times. Sometimes ether is very useful. Bleeding may be indicated, and, if so, abstraction of about three and a half quarts may relieve the engorgements of the great veins and right side of the heart. Water may be allowed freely. Cloths wrung out from hot water may be applied to the chest, surrounded by a dry rug, and tied with a surcingle.

Conjunctivitis (in Acute Stage).*Lotion.*

Sulphate of atropine, two to four grains.

Water, one fluid ounce.

Lotion.

Tincture of opium, one fluid drachm.

Solution of acetate of lead, one fluid drachm.

Tincture of lavender, one fluid drachm.

Water, sufficient to make eight fluid ounces in all.

Conjunctivitis (in Chronic Stage).

Lotion.

Boric acid, three grains.

Water, one fluid ounce.

Constipation (Acute).

May depend on intestinal obstruction, or be due to diminished peristaltic action, or to deficient intestinal secretions. If it be not relieved, the appetite becomes impaired, general weakness ensues, and in some cases there may be a yellow mucous secretion.

Ball.

Aloes, six drachms.

This ball must on no account be repeated, and for three days the horse to which the ball has been given must be rested, and fed on warm water and bran-mashes. (For formula, see 'Purgatives.')

Intravenous Injection.

Sulphate of eserine, one half-grain to one grain in solution may be injected intravenously in very severe cases.

Constipation (Chronic or Habitual).

The diet should be laxative; and it is well to give a moderate dose of aloes, followed by nux vomica or gentian. If there be a partial paralysis of the intestine, give stimulants with liq. strych. (small dose).

Ball.

Nux vomica, half a drachm.

Barbadoes aloes, one drachm.

Carbonate of ammonium, one drachm.

Ginger, one drachm.

Gentian, one drachm.

Treacle, a sufficient quantity.

This ball may be given once daily, and the administration of it is generally attended with a very highly beneficial effect.

N.B.—In the case of young foals unable to void the meconium, give enemas of oil, or else administer two fluid ounces of castor-oil.

Cooling Lotions.

- (1) Solution of subacetate of lead, one fluid part.

Tincture of arnica, three fluid parts.

Water, eight fluid parts.

- (2) Chloride of ammonium, two ounces.

Nitrate of potassium, two ounces.

Water, sixteen fluid ounces.

- (3) Powdered chloride of ammonium, five drachms.

Acetic acid, ten fluid drachms.

Alcohol, ten fluid drachms.

Water, sufficient to make eight fluid ounces in all.

Cordial Medicine.

Draught.

Aromatic spirit of ammonia, one fluid ounce and a half.

Tincture of gentian, one fluid ounce.

Spirit of nitrous ether, one fluid ounce.

Water, to ten fluid ounces.

Draught.

Tincture of ginger, one fluid ounce.

Tincture of cardamoms, one fluid ounce.

Spirit of nitrous ether, one fluid ounce.

Water, sufficient to make eight fluid ounces in all.

Cornea, Inflammation of (Acute).

Lotion.

Sulphate of atropine, four grains.

Water, one fluid ounce.

A few drops of this lotion are to be placed in the corner of the eye several times a day.

Cornea, Inflammation of (Chronic).

Lotion.

Solution of subacetate of lead, ten minims.

Water, one fluid ounce.

Ointment.

Yellow oxide of mercury, sixteen grains.

Lard, one ounce.

Cornea, Ulcers of.

Lotion.

Nitrate of silver, five grains.

Water, one fluid ounce.

This lotion is to be applied with a brush.

Corns.

The shoeing should be very carefully attended to. As a general rule it is not judicious to pare out the corns, but if pus is present, a free exit for the same should be provided. Should necrosis have occurred, the dead tissue should be at once removed, and the parts treated with antiseptics.

Coryza.—See Catarrh.

Coryza is a catarrhal inflammation of the mucous membrane of the nose, often involving also the conjunctivæ,

frontal sinuses, pharynx, and Eustachian tube. It may spread to the larynx and bronchial tubes. It often seems to possess contagious properties, and is really in many cases influenza.

Cough.—See **Broken Wind.**

Ball.

Powdered digitalis, half a drachm.

Powdered opium, one drachm.

Powdered ipecacuanha, one drachm.

Cape aloes, two drachms.

Resin and soft soap, sufficient to make a one-ounce ball.

This ball may be given once daily for two or three days, and then every alternate day.

Ball.

Digitalis, half a drachm.

Powdered Barbadoes aloes, one drachm.

Powdered opium, one drachm.

Resin and soft soap, sufficient to make a one-ounce ball.

This ball may be given every alternate day.

Ball.

Calomel, half a drachm.

Digitalis, twenty-five grains.

Opium, half a drachm.

Ginger, gentian, and soft soap, sufficient to make a one-ounce ball.

This ball may be especially useful in cases of broken-winded cough, and may be given every day for several days, and then every other day.

Ball.

Camphor, two drachms.

Asafœtida, two drachms.

Ammoniacum, two drachms.

Powdered squills, one drachm.

Soft soap, a sufficient quantity.

This ball may be given once daily. It is especially useful in cases of horses suffering from what is called moist cough.

Ball (Strong Cough).

Powdered digitalis, half a drachm.

Powdered potassio-tartrate of antimony, forty-five grains.

Powdered opium, one drachm.

Powdered aloes, two drachms.

Soap, a sufficient quantity.

Ball (Tonic Cough Ball).

Carbonate of ammonium, two drachms.

Citrate of iron and ammonium, two drachms.

Squills, one drachm.

Extract of belladonna, one drachm.

Gentian, and treacle or soft soap, sufficient to make a one-ounce ball, which may be given once daily.

Ball-Mass.

Powdered squills, one part.

Guaiacum, one part.

Nitrate of potassium, one part.

Camphor, one part.

Asafœtida, one part.

Ammoniacum, one part.

Aniseed, one part.

Turpentine and soft soap in quantity sufficient to make a mass.

The dose of this mass is one ounce ; and a one-ounce ball may be given once daily for several days, and then every alternate day.

Cough Balls.

- (1) Calomel, half a drachm.
Digitalis, half a drachm.
Opium, half a drachm.
- (2) Powdered digitalis, half a drachm.
Cape aloes, two drachms.
Powdered opium, one drachm.
Powdered ipecacuanha, one drachm.
Resin, a sufficient quantity to make a one-ounce ball.

N.B.—One drachm of powdered potassio-tartrate of antimony may be substituted for the powdered ipecacuanha in the above prescription.

- (3) For chronic cough :
Powdered opium, one scruple.
Powdered digitalis, one scruple.
Powdered potassio-tartrate of antimony, one scruple.
Cape aloes, two drachms.
Gentian and treacle, a sufficient quantity.
- (4) Ordinary cough-mass :
Powdered squills, seven pounds.
Gum guaiacum, seven pounds.
Powdered nitrate of potassium, seven pounds.
Powdered camphor, seven pounds.
Powdered asafoetida, seven pounds.
Powdered carbonate of sodium, seven pounds.
Powdered ginger, seven pounds.

Turpentine and soft soap, a sufficient quantity of each.

This mass may be made into balls weighing one ounce each, and one of these balls may be given twice daily.

Cough Electuary.

Extract of belladonna, half an ounce.
Powdered squills, one ounce.

Powdered liquorice, one ounce.
Powdered digitalis, half an ounce.
Powdered ipecacuanha, one ounce.
Powdered sugar, four ounces.
Honey or treacle, sufficient to make twelve ounces.
A teaspoonful may be given occasionally.

Cough-Powder.

Powdered squills, two ounces.
Powdered liquorice, two ounces.
Nitrate of potassium, two ounces.
Powdered ipecacuanha, one ounce.
Powdered opium, one ounce.
Powdered digitalis, half an ounce.
Powdered potassio-tartrate of antimony, half an ounce.
Mix. The dose of this powder is one ounce, to be given every day.

Counter-Irritants.

' White Oil.'

Oil of turpentine, eight fluid ounces.
Strong solution of ammonia, three fluid ounces.
Soft soap, four ounces.
Digest, and then add, shaking well at intervals, water sufficient to make two quarts in all.

' White Oil.'

Soft soap, twelve ounces.
Powdered chloride of ammonium, one ounce.
Mix, and add five pints of boiling water, and then add one and a half pints of oil of turpentine gradually, shaking after each few ounces have been added.

' White Oil' (Acetic).

Eggs, four.
Acetic acid, four fluid ounces.

Solution of acetate of lead, four fluid ounces.

Oil of rosemary, half a fluid ounce.

Oil of turpentine, eight fluid ounces.

Water, sufficient to make two quarts.

Absorbent Liniment.

Acetic 'white oil,' eight fluid ounces.

Solution of iodide of potassium, two fluid ounces.

Compound Soap Liniment.

Proof spirit, two pints.

Strong solution of ammonia, half a pint.

Soft soap, four ounces.

Camphor, one ounce.

Compound Camphor Liniment.

Camphor, five parts.

Oil of lavender, one-fourth of a fluid part.

Strong solution of ammonia, ten fluid parts.

Rectified spirit, thirty fluid parts.

Dissolve the oil and camphor in the spirit, and then add the ammonia gradually.

Mercurial Liniment (for Enlarged Glands).

Mercury ointment, two ounces.

Camphor, one drachm.

Oil of tar, four fluid ounces.

Linseed-oil, four fluid ounces.

Blistering Liniment.

Powdered cantharides, one ounce.

Olive-oil, eight fluid ounces.

Digest over hot bath.

Absorbent Blistering Liniment (a).

Iodine, two and a half ounces.

Iodide of potassium, one ounce.

Camphor, half an ounce.

Methylated spirit, one pint.

This valuable liniment may be painted by means of a brush on the part requiring to be blistered. It is especially valuable for bursal enlargements.

Absorbent Blistering Liniment (b).

Perchloride of mercury, forty grains.

Methylated spirit, one fluid ounce.

Colour by means of alkanet.

This liniment is to be painted on the part by means of a brush. It is especially useful for reducing bony enlargements.

Absorbent Blistering Liniment (c).

Perchloride of mercury, half a drachm.

Biniodide of mercury, half a drachm.

Methylated spirit, one fluid ounce.

This liniment is very useful for sprains, splints, and so forth, and it may be employed instead of the ordinary red ointment. If it is required to make it as strong as possible, ten grains more of perchloride of mercury may be added.

Absorbent Blistering Liniment (d) (very strong).

Perchloride of mercury, one drachm.

Methylated spirit, one fluid ounce.

Anchusa-root, a little for colouring.

This liniment is to be applied with a brush.

Absorbent Ointment (for Bad Cases of Bursal Dropsy).

Iodine, one ounce.

Iodide of potassium, half an ounce.

Adeps benzoatus, seven ounces.

Absorbent Ointment.

Iodine, three drachms.

Iodide of potassium, three drachms.

Adeps benzoatus, sufficient to make four ounces in all.

Blistering Essence.

Powdered cantharides, two ounces.

Powdered euphorbium, one ounce.

Rectified spirit, one pint and a half.

Digest for ten days, and strain. The essence may be used for sprains and the like, also for dressing rowels, setons, and so forth.

Mustard Liniment (Mustard Essence).

Mustard, four ounces.

Oil of turpentine, five fluid ounces.

Digest for ten days, and add a sufficient quantity of linseed-oil.

Ointment of Red Iodide of Mercury.

Biniiodide of mercury, one pound.

Olive-oil, one pint.

Mix well, and add seven pounds of melted lard.

Ointment of Cantharides.

Lard, four pounds.

Resin, four pounds.

Powdered cantharides, one pound.

Ointment of Cantharides.

Powdered cantharides, one part.

Venice turpentine, one part.

Resin, one part.

Palm-oil or lard, four parts.

Curb (Early Stages).

Cooling Lotions (vide 'Cooling Lotions').

Curb (Later Stages).

Counter-irritants (vide 'Counter-Irritants').

Ointment of red iodide of mercury.

Cystitis.—Vide also Bladder, Inflammation of.

Give by the mouth boric acid or salicylic acid, or biborate of sodium, or tannin (which is excreted as pyrogallie acid), in suitable dose. Should putrefaction, and especially alkaline fermentation, have occurred, the bladder should be washed out by means of the catheter with warm solutions in the case of cows and mares, a rubber tube being used. The best lotions for this purpose are concentrated solution of salicylic acid, solution of carbolic acid (1 in 200), perchloride of mercury (1 in 2,000), boric acid (2 in 100). The administration of salol in small doses may be useful. This substance is decomposed by the pancreatic juice in the small intestines into salicylic acid and phenol. Although it has been much used for various maladies, it is very doubtful if it is judicious to give it, except in small doses.

Debility.

This name is given to a condition of general weakness, and is due to various causes. As an example may be mentioned general overwork, or an extra pressure of same on any given occasion, insufficiency or unsuitability of food, bad water, or faulty sanitation. Sometimes, however, it is exceedingly difficult to assign any sufficient external factor, and in these cases it seems to be due to an inherent loss

of vitality in the blood-cells themselves, and in certain instances this impairment of power may be hereditary in nature. The following prescription for a ball will be found very useful indeed; but it is well to bear in mind that perhaps the stables may be deficiently or ineffectually ventilated. It should also be remembered that debility may be associated with some very serious disease.

Ball.

Carbonate of ammonium, ℥ii.

Citrate of iron and ammonium, ℥i.

Powdered nux vomica, gr. xxx.

Gentian, ℥i.

Ginger, ℥ii.

Treacle, a sufficient quantity.

One ball should be given once or twice daily.

N.B.—Any prescription mentioned under ‘Anæmia’ may be given.

Diabetes Insipidus (Polyuria, or Hydruria).

The malady to which the above name is given is characterized by an excessive secretion of urine, great thirst, anorexia or depraved appetite, emaciation and debility. It is probably caused by a disorder of the vaso-motor centres, leading to a dilatation of the renal vessels, and this inadequate nerve-control is frequently due to a defective assimilation occasioned by improper diet or by local causes or prolonged exertion and exposure to cold.

The urine is pale and of low specific gravity (about 1003). Change and careful regulation of the diet are essential, and the food should be at first restricted to hay and mashes. Mild aperients should be given, and bicarbonate of sodium or potassium allowed freely in the drinking water. The

compound tincture of iodine may be prescribed, or iodide of potassium added to the drinking-water in two-drachm doses twice daily, also vegetable tonics or the sulphate or perchloride of iron, and perhaps Fowler's solution.

Ball.

Iodide of potassium, ℥i.

Sulphate of iron, ℥i.ss.

Gentian, ℥iv.

Treacle, q. s.

This ball may be given twice daily.

Diabetes Mellitus.

This malady is rare in the horse. It is probably due to vaso-motor disorder producing dilatation of the hepatic arteries, and consequently augmented activity of the hepatic cells, leading to an increased amount of transformation of glycogen into glucose, the surplus of which is excreted by the kidneys.

In this disease, to the symptoms of diabetes insipidus a new and most important factor is added, viz., that the urine has a fragrant smell, a high specific gravity, and contains glucose.

The diet should be nutritious and, so far as possible, devoid of purely saccharine or starchy matter.

Opium or codeia may be given, and preferably the latter, and mineral acids, iron salts, and astringents such as gallic acid may be useful. Of iron salts, probably the best is the citrate of iron and quinine.

Draught.

Diluted hydrochloric acid, f. ℥ii.

Quinetum, ℥i.

Tincture of opium, f. ʒss.

Water, ad f. ʒvi.

This draught may be given twice daily, and together with this treatment the horse may have twice daily two pounds of crushed linseed.

Diaphoretics.

In many cases of illness it is desirable to make a horse sweat, and good prescriptions for this purpose are given below :

Draught.

Liq. amm. acet., f. ʒiv.

Potassii bicarb., ʒi.

Sp. æth. nitrosi, f. ʒii.

Aqua, f. ʒx.

Powder.

Pulv. opii, ʒi.

Pulv. pot. nit., ʒvii.

Hypodermic Injection.

Pilocarpinæ nitras, gr. ii. (dissolved in water).

Diarrhœa (in adults).

Is frequently a symptom, and not a disease in itself. Hence, in all cases attention should be directed to the real cause. The immediate source of diarrhœa may be excessive peristaltic action, or an increased amount of the intestinal secretions, or a morbid condition of the mucous membrane. In the case of human beings, and no doubt also in that of animals to some extent, a purely nervous influence like fear or intense excitement may produce diarrhœa, or, on the other hand, it may result from a chill or from the in-

gestion of irritating foods or liquids, impure water or air. Some purgatives act by exciting the muscular fibre, others by stimulating the intestinal glands, and others by even causing an actual inflammation of the coats of the bowel. Diarrhœa may occur in septicæmia and at the close of pneumonia or other acute fevers, sometimes by way of what is called crisis. It is important to remember that a frequent discharge of liquids in small quantity does not necessarily prove that the canal is quite free. Opium is of the greatest value, and it may be combined with the direct astringents, such as hæmatoxylin, catechu, kino, hamamelis, chalk, bismuth, sulphate of copper, or diluted sulphuric acid. Not unfrequently antiseptics are beneficial, such as sulphurous acid in small doses, salicylic acid, salicylate of bismuth, wood charcoal, or perchloride of mercury in small doses.

No cold water must be given. The food should be easily digestible, and linseed gruel or other demulcent drinks are valuable. If the pain be very great, a draught composed of tincture of opium, sulphuric ether, spirit of chloroform, and brandy, in doses varying with the amount of pain, should be given thrice daily. To the abdomen a stimulating embrocation should be applied. When diarrhœa is due to engorgement of the liver, a draught containing small doses of diluted nitric acid and nux vomica, with gentian, should be given twice daily. In the case of young animals, it is well to commence treatment with castor oil and a small dose of tincture of opium, and follow up with camphor and opium and spirit of chloroform, in suitable doses, thrice daily. Alcohol may also be given, and hot cloths applied to the abdomen. Other remedies are carbonate of magnesium, catechu, bael fruit, and prepared chalk. To young foals suffering from diarrhœa when suckling, pepsin, five to

ten grains, with diluted hydrochloric acid, twenty minims, may be given twice daily. We first give two forms for draughts for adult horses.

Draught.

Sp. chlorof., f. ʒss.

Tinct. opii, f. ʒi.

Acid. sulph. dil., f. ʒii.

Acid. tannic., ʒss.

Aqua, ad f. ʒviii.

This draught may be given twice daily.

Draught.

Catechu, ʒii.

Camphor, ʒii.

Liquid extract of bael fruit, f. ʒiv.

Spirit of nitrous ether, f. ʒss.

Water, sufficient to make eight fluid ounces in all.

Diarrhœa (in foals).

Mixture.

Catechu, ʒiv.

Prepared chalk, ʒiv.

Tincture of opium, f. ʒiv.

Powdered ginger, ʒiv.

Powdered gentian, ʒiv.

Sulphite of sodium, ʒii.

Bicarbonate of potassium, ʒii.

Spirit of nitrous ether, f. ʒiv.

Oil of cassia, f. ʒi.

Oil of cloves, f. ʒi.

Add sufficient water to fill a Winchester quart. The dose is from one to two tablespoonfuls, to be given twice or thrice daily until the purging ceases.

Draught.

Bicarbonate of potassium, ʒiii.

Sulphocarbolate of sodium, ʒi.

Spirit of chloroform, f. ʒii.

Tincture of opium, f. ʒii.

Water, sufficient to make six fluid ounces in all.

This draught may be repeated twice daily.

Draught.

Tincture of catechu, f. ʒiv.

Liquid extract of bael fruit, f. ʒiv.

Camphor, gr. xxx.

Tannic acid, ʒii.

Water, sufficient to make six fluid ounces in all.

This draught may be repeated twice daily.

Draught.

Pepsina porci, ten grains.

Diluted hydrochloric acid, half a fluid drachm.

Tincture of cinchona, one fluid drachm.

Water, sufficient to make one fluid ounce.

The above draught should be given once.

Disinfectant.

Common carbolic acid, one pint.

Soft soap, two pounds.

Water, to make five gallons in all.

This disinfectant fluid may be used for various purposes ; for instance, for cleansing troughs, mangers and the like.

Diuretic Ball.

Nitrate of potassium, half an ounce.

Venice turpentine, half an ounce.

Give this ball once or twice daily, as may be requisite.

Dropsy may result from heart disease (mitral), which causes general venous stagnation, and as a result of the hepatic stagnation, ascites and enlargement of the spleen. Dropsy caused by kidney disease may probably be due to the increased arterial tension consequent on the diminished loss of water from the kidneys, and probably the malady is often also accompanied by loss of secretive power in the glands of the skin and intestines. See 'Ascites.'

Dysentery (*δυσ*, with difficulty; *έντερον*, the bowel). Give first a small dose of oil, and then opium, antacids, and astringents.

Draught.

Sulphocarbonate of sodium, two drachms.

Powdered ipecacuanha, two drachms.

Tincture of opium, one fluid ounce.

Tannic acid, four drachms.

Water, sufficient to make eight fluid ounces.

This draught may be given twice daily for a few days, and then once daily.

Draught.

Ipecacuanha wine, two fluid ounces.

Tincture of opium, two fluid ounces.

Tannic acid, half an ounce.

Diluted sulphuric acid, one fluid drachm.

Linseed-oil, sufficient to make ten fluid ounces in all.

This draught may be given once daily.

Dyspepsia.—See **Indigestion.**

Dyspnœa.—See **Asthma.**

Eczema and Grease.

Draught.

Iodide of potassium, two drachms.

Solution of hydrate of potassium, half a fluid ounce.

This draught may be given mixed with a pint of water, or preferably with gruel, twice daily.

Ball.

Gray powder, half a drachm.

Nitrate of potassium, one drachm.

Resin, ginger, gentian and soft soap, sufficient to make a one-ounce ball.

This ball may be given once daily.

Ball.

Bichromate of potassium, five to six grains.

Nitrate of potassium, one drachm.

Squills, one drachm.

Resin, ginger, gentian and soft soap, sufficient to make a one-ounce ball.

Ball.

Cape aloes, two drachms.

Black mercury, one drachm.

Resin, turpentine, and nitrate of potassium, in sufficient quantity to make a one-ounce ball.

One ball may be given either every other day or every third day.

Ball for Grease.

Resin, two drachms.

Cape aloes, two drachms.

Black mercury, one drachm.

Venice turpentine, two drachms.

One ball may be given every third day.

Powder.

Sulphur, half an ounce.

Black mercury, one drachm.

Tonic powder, q. s.

This is one full dose, and it may be mixed with a bran-mash.

Powder for Grease.

Milk of sulphur, two ounces.

Nitrate of potassium, two ounces.

Fenugreek, two ounces.

Powdered aniseed, one ounce.

Powder.

One ounce of 'Condition Powder' may be given in the food once or twice daily. (See 'Condition Powders'.)

Ointment.

Powdered stavesacre, two ounces.

Carbonate of zinc, one ounce.

Carbolic acid, half a fluid ounce.

Lard, six ounces.

Olive-oil, two fluid ounces.

Heat, and mix together.

Lotion.

Bichromate of potassium, one to two parts.

Water, one hundred parts.

Lotion for Grease.

Chromic acid, one part.

Water, eight parts.

Liniment for Grease.

Carbolic acid, half a fluid ounce.

Sulphate of zinc, half a fluid ounce.

Glycerine, half a fluid ounce.

Water, sufficient to make one pint in all.

Ointment.

Oleate of zinc, one part.

Vaseline, two parts.

Ointment.

White precipitate of mercury, one drachm.

Liquor carbonis detergens, one fluid drachm.

Vaseline, one ounce.

Effusion, Pleuritic.—See **Pleurisy.**

Elephantiasis—**Chronic Weed.**

Draught.

Iodide of potassium, one drachm.

Bicarbonate of potassium, half an ounce.

Liquor arsenicalis, two fluid drachms.

Spirit of nitrous ether, one fluid ounce.

Water, sufficient to make eight fluid ounces.

Ball.

Iodide of potassium, two drachms.

Nitrate of potassium, two drachms.

Ginger, gentian, and Venice turpentine, sufficient to make a one-ounce ball.

This ball may be given twice daily.

Empyema.

Draught.

Iodide of potassium, one drachm.

Tincture of cardamoms, one fluid ounce.

Spirit of nitrous ether, one fluid ounce.

Water, sufficient to make eight fluid ounces in all.

This draught may be given twice daily.

Draught.

Iodide of potassium, two drachms.

Turpentine, one fluid ounce.

Linseed-oil or castor-oil, a sufficient quantity to make eight fluid ounces in all.

This draught may be administered twice daily.

Emphysema of the Lungs.

This condition of the lungs is caused by a progressive dilatation of the alveoli, and destruction of the septa dividing them, and it is accompanied by an enlargement of the whole organ. Thus, bilateral enlargement of the chest is produced, and also extension of the left lung over the heart. There is expiratory dyspnœa and prolongation of the expiratory sound. Percussion gives rise to a tympanic note. In human beings bronchitis is always associated with this state, and the right ventricle is dilated and hypertrophied. On the other hand, pneumothorax is never bilateral, and it gives rise to amphoric sounds.

Same remedies as for 'Broken Wind.'

Encephalitis or Phrenitis (Inflammation of the Brain and its Meninges).

Draught.

Hydrate of chloral, four drachms.

Bromide of potassium, two drachms.

Spirit of nitrous ether, half a fluid ounce.

Water, sufficient to make eight fluid ounces in all.

This draught may be given every six hours.

Draught.

Bromide of potassium, two drachms.

Iodide of potassium, two drachms.

Fleming's tincture of aconite, five minims.

Spirit of chloroform, one fluid ounce.

Water, sufficient to make eight fluid ounces in all.

This draught may be given every six hours.

Draught.

Bromide of potassium, two drachms.

Iodide of potassium, two drachms.

Compound tincture of cardamoms, one fluid ounce.

Water, sufficient to make eight fluid ounces in all.

Draught.

Chloric ether, half a fluid ounce.

Draught.

Tincture of opium, one fluid ounce and a half.

Turpentine, one fluid ounce.

Linseed-oil, sufficient to make one pint.

Endocarditis (Acute).

It is best to concentrate attention on the diseases with which this condition is associated. When the irritability and pain are great, cardiac sedatives may be beneficial; but when there is debility, stimulants are requisite.

Enteritis (Inflammation of the Bowels).

The horse should be provided with thin linseed or oat-meal gruel to drink, and have no hard food until all danger is over. Give enemata with the funnel, but be sure not to inject them. In the case of plethoric horses bleed, but not more than two or three quarts. In the treatment of this

disease opium or morphia is our sheet-anchor. We may give one drachm of powdered opium with two drachms of chloroform and five minims of tincture of aconite. Or we may inject forty minims of *injectio morphinæ hypodermica* every three or four hours. Sulphuric ether is also very valuable, and belladonna may be of service. Poultices of mustard followed by hot fomentations do much good.

Draught.

Tincture of opium, one fluid ounce and a half.

Chloroform, two fluid drachms.

Water, sufficient to make eight fluid ounces in all.

This draught may be given every three hours for four or five times.

Draught.

Fleming's tincture of aconite, ten minims.

Chloroform, two fluid drachms.

Water, sufficient to make eight fluid ounces in all.

This draught may be given every four hours.

Draught.

Tincture of opium, one fluid ounce.

Spirit of nitrous ether, two fluid ounces.

Tincture of pimento, two fluid ounces.

Water, sufficient to make one pint in all.

Hypodermic Injection.

Hypodermic injection of morphine (B.P.), forty minims.

Enzoötic Paraplegia, or Grass Staggers.

This is a disease liable to affect horses feeding on rye-grass at certain periods of its growth, and is manifested by

an impairment or loss of motor, and more rarely of sensory, power over the hind-limbs. Remove to a fresh pasture, give a purgative if the animal can be brought up to stable, and follow up with vegetable tonics, such as ginger, gentian, and small doses of nux vomica.

Epilepsy.

In the case of an acute attack occurring in a plethoric animal, bleeding may be useful. If the disease be caused by the presence of worms, anthelmintics and purgatives should be tried. Bromides and belladonna are useful, and salts of zinc, silver, arsenic, and iron have been tried, as also have small doses of strychnine with large doses of bromides of potassium and sodium.

Draught.

Bromide of potassium, two drachms.

Tincture of gentian, one fluid ounce.

Water, sufficient to make eight fluid ounces.

This draught may be given twice daily.

Draught.

Hydrate of chloral, two drachms.

Tincture of belladonna, half a fluid ounce.

Water, sufficient to make six fluid ounces in all.

This draught may be given twice daily.

Draught.

Bromide of potassium, one drachm.

Bromide of ammonium, one drachm.

Tonic solution, sufficient to make one fluid ounce in all.

One dose may be given once or twice daily.

Draught.

Bicarbonate of potassium, two drachms.

Bromide of potassium, two drachms.

Sulphur, two drachms.

Water, a sufficiency.

This draught may be given once daily.

Epistaxis.—See **Bleeding.**

The animal should be kept quiet, and to the elevated head cold applications should be applied. The nostril out of which the blood proceeds should be washed with a mixture of vinegar and cold water by means of an irrigator. In some cases insufflation of finely-powdered alum or tannin may be useful.

Internally, small doses of turpentine, or moderate doses of liq. extract of ergot, or tinct. hamamelis may be useful, and hypodermic injection of ergotin has been successfully tried, Sohngen noting recovery in the horse after subcutaneous injection of twelve grains of extr. secal. cornut.

Erysipelas (ἐρπω, I draw, and πελας, near).

This is a contagious disease, accompanied by a peculiar kind of inflammation of the skin, pain, heat, and swelling. It often attacks the skin near wounds; but it may apparently be idiopathic as well as traumatic. In human beings it often recurs in the same person, and the tendency is said to be inherited. Micrococci have been found.

The horse is to be placed in a loose box, and a mild purge of calomel or aloes given. Then give liq. ammon. acet., with camphor and spirit of nitrous ether, thrice daily. If the temperature be very high, give salicylic acid, or a salicylate in full dose twice or thrice daily in combination with the above. Perchloride of iron is strongly recom-

mended. Give two fluid ounces of aromatic spirit of ammonia, or three and a half fluid ounces of whisky thrice daily at a later stage. Quinine may also be administered. Chlorate of potassium dissolved in the water is useful if the thirst be great.

Locally.—If there be much local disturbance, foment for two hours, thrice daily. Free scarification may be required, and if abscesses form, as they may in the cellulocutaneous or phlegmonous form, they must be opened, and the raw surfaces treated with antiseptics.

Draught.

Tincture of perchloride of iron, one fluid ounce.

Glycerine, one fluid ounce.

Water, sufficient to make eight fluid ounces in all.

This draught may be given every six hours. In addition to this, four fluid ounces of brandy may be administered every three or four hours.

Draught.

Fleming's tincture of aconite, five minims.

Chlorate of potassium, two drachms.

Water, sufficient to make eight fluid ounces in all.

This draught may be given every six hours.

N.B.—At a later stage tonics and stimulants may be given.

Liniments.

Liniment of belladonna (V.P.).

Liniment of chloroform (V.P.).

Lotion (to arrest Circumscribed Erysipelas).

Nitrate of silver, twenty grains.

Ether or water, one fluid ounce.

Erythema—Mud Fever.*Draught.*

Bicarbonate of potassium, six drachms.

Spirit of nitrous ether, one fluid ounce.

Tincture of gentian, one fluid ounce.

Water, sufficient to make eight fluid ounces in all.

This draught may be given thrice daily.

Draught.

Solution of bicarbonate of potassium, six fluid ounces.

Spirit of chloroform, one fluid ounce or one half of a fluid ounce.

Mix.

Lotion.

Solution of subacetate of lead, one fluid ounce.

Tincture of arnica, two fluid ounces.

Water, eight fluid ounces.

Lotion (if there be Itching).

Hydrocyanic acid, half a fluid ounce.

Solution of carbonate of potassium, one pint.

Eye, Contractor of Pupil of.*Lotion.*

Salicylate of eserine, one or two grains.

Water, one fluid ounce.

Eye, Dilator of Pupil of.*Lotion.*

Sulphate of atropine, two to four grains.

Water, one fluid ounce.

Farcy.

This is a highly contagious specific fever, and is readily transmissible to man, sheep, goats, felines, and rodents. The mucous membrane of the nose, frontal sinuses, larynx, and trachea is specifically attacked, and the lymphatic glands and vessels may be inflamed, and also the skin, and small round buds called farcy-buds may form and develop into pustules. Animals affected with any of the various forms of equinia are destroyed. The stables should be thoroughly disinfected with sulphurous oxide gas, or with chlorine evolved by the action of sulphuric acid on bleaching powder, or on salt mixed with a little dioxide of manganese. The walls of the stables should be thoroughly washed, scraped, and cleansed with lime-wash containing one pint of carbolic acid in each bucketful. The harness and other articles which have been in contact with diseased animals should also be thoroughly cleansed with carbolized water. The best remedies are iodine and sulphite of sodium.

Draught.

Iodide of potassium, two drachms.

Tincture of gentian, one fluid ounce.

Water, sufficient to make eight fluid ounces in all.

This draught may be given twice daily.

Ball (for Pyæmic Influenza).

Sulphate of copper, six drachms.

Iodine, four drachms.

Ginger, two ounces and a half.

Gentian, two ounces and a half.

Treacle, a sufficiency.

Divide into twelve balls, and let one be given by the aid

of a balling-iron once daily (not by the hand, lest the hand should become inoculated).

Ointment.

Red iodide of mercury ointment.

Favus.

Tinea tonsurans is caused by the *Trichophyton tonsurans*, whilst the tinea favus is due to the *Achorion Schönleini*.

Ointment of Iodine (V.P.).

Ointment.

Oleate of copper, one part.

Lard, eight parts.

Ointment of Iodide of Sulphur (V.P.).

Lotion.

Sulphurous acid, one fluid part.

Glycerine, four fluid parts.

Lotion.

Sulphurous acid, one fluid part.

Solution of sulphate of copper, one fluid part.

This lotion is to be applied once daily with a brush.

Fever.

Febricula or simple fever is manifested by rigors, elevation of temperature, quick pulse, and accelerated respiration. It is produced by exposure to cold and wet, variations in temperature, fatigue, and irregular dieting. It is, however, very probable that so-called febricula would, if not aborted, develop into the early stages of some more severe malady.

Draught.

Solution of acetate of ammonium, four fluid ounces.

Fleming's tincture of acouite, five minims.

Spirit of nitrous ether, one fluid ounce and a half.

Water, sufficient to make eight fluid ounces in all.

This draught may be given every four or five hours.

Draughts, Antipyretic (see 'Antipyretics').

Ball.

Nitrate of potassium, three drachms.

Camphor, two drachms.

Extract of belladonna, one drachm.

Resin and soft soap, two drachms.

This ball may be given twice daily.

Ball.

Potassio-tartrate of antimony, half a drachm.

Compound camphor-powder, one drachm.

Powdered ipecacuanha, one drachm.

Powdered nitrate of potassium, two drachms.

Powdered resin, two drachms.

Mix. If it is thought advisable to do so, one drachm of powdered digitalis may be added.

Fistula.—See **Antiseptic Application.**

Very strong application for destroying the walls of the sinuous channels of quittor, poll-evil, etc. :

Perchloride of mercury, two drachms.

Hydrochloric acid, two fluid drachms.

Rectified spirit, two fluid ounces.

A small quantity of this application is to be injected into the sinus. This preparation must be used with the greatest

possible care. After one injection, the sinus may be dressed with the following :

Injection.

Powdered perchloride of mercury, one ounce.

Powdered chloride of ammonium, one ounce.

Water, sufficient to make two quarts of solution.

This injection may be used every third day.

N.B.—One dressing of the above strong application may be used, and then the treatment may be continued either with the above injection or with black oil, made as follows:

Black Oil.

Linseed-oil, one pint.

Turpentine, four fluid ounces.

Mix well, and then add six fluid drachms of sulphuric acid.

Fumigation.

Powder for Fumigating.

Sulphur, one ounce.

Tincture of iodine, two fluid drachms, or as much as one fluid ounce.

A portion of the mixture should be placed on hot coals, and thereby a valuable fumigation will be produced.

Gangrene.

Draught.

Salicylate of sodium, three drachms.

Spirit of nitrous ether, one fluid ounce.

Water, sufficient to make six fluid ounces in all.

This draught may be given every four hours when the temperature is high.

Draught.

Quinetum, one drachm.

Diluted sulphuric acid, one fluid drachm.

Alcohol, four fluid ounces.

This draught may be given every six hours.

Draught.

Tincture of perchloride of iron, one fluid ounce.

Turpentine, one fluid ounce.

Tincture of ginger, half a fluid ounce.

Tincture of gentian, one fluid ounce.

Water, sufficient to make half a pint in all.

Glands, Enlarged.*Ball.*

Carbonate of ammonium, one drachm.

Citrate of iron and ammonium, two drachms.

Iodide of potassium, one drachm.

Ginger, gentian, and treacle, sufficient to make a one-ounce ball.

This ball may be given twice daily.

Ointments.

(1) Ointment of red iodide of mercury.

(2) Mercury ointment, two ounces.

Camphor, one drachm.

Oil of tar, four fluid ounces.

Linseed-oil, four fluid ounces.

Glaucoma.*Lotion.*

Sulphate of eserine, two to four grains.

Water, one fluid ounce.

Glossanthrax.

Whilst horses suffering from anthrax may die in less than twenty-four hours, glossanthrax is not generally fatal until about three days have elapsed. Vesicles appear on the sides and dorsum of the tongue, and on the buccal mucous membrane of the mouth and lips. The tongue is swollen, hard, and dark-coloured, and hangs from the mouth, whilst the breath is very foetid. It is, moreover, often lacerated by the teeth, and deglutition becomes difficult. When the vesicles have burst, they leave an ulcerated surface. The constitution becomes seriously affected, and the animal generally dies in about twenty-four hours afterwards. The structures around the throat often become inflamed and swollen, thus constituting anthracoid angina. The temperature reaches 105°.

Draught.

Salicylate of sodium, three drachms.

Water, six fluid ounces.

This draught may be given thrice daily.

Gargle.

Acid solution of nitrate of mercury, six minims.

Water, one fluid ounce.

This gargle may be used thrice daily.

Gargle.

Boric acid, one part.

Glycerine, five fluid parts.

Water, seven fluid parts.

Gargle.

Permanganate of potassium, eight grains.

Water, one fluid ounce.

Glossitis.

This affection is rarely met with in the horse, but it may be produced by the action of irritants or by mechanical injury. The tongue becomes swollen, enlarged, tense, and painful, and soon protrudes. There is difficulty in swallowing, and saliva and mucus accumulate in the mouth. Gargling with warm and mild antiseptic lotions may be tried, and laxatives given per rectum.

Goitre.

(1) Subcutaneous injection of thyroid extract, or feeding with thyroid gland, cures goitre, and also myxœdema, the diseased condition resulting from goitre.

(2) Infriction thrice daily of a mixture of iodine (one part), potassii iodidum (five parts), and sapo viridis (thirty parts), and administration of thirty grains each of pot. iod. and pot. nit. thrice daily.

(3) Intraparenchymatous injection of ten drops of tinct. iodi with a Pravatz syringe, then again in ten days' time, and again at intervals.

Grapes and Grease.

Draughts and Balls (for formulæ, see 'Eczema').

Lotions and Liniment (for formulæ, see 'Eczema').

Grease (Eczematous Dermatitis).

Rest the animal. Clean the affected skin with warm water and carbolic soap, wash the swelling with creolin solution, dry and dress with a mixture of one part of iodoform to three of tannic acid; or apply an ointment made of one part of red oxide of mercury to five of lanolin or vaseline.

The exuberant granulations (proud flesh) may be arrested

by the application of sulphate of copper. Scars which project from the skin may be removed by the knife, the operation being rendered painless by previous injection of solution of hydrochlorate of cocaine. It will be necessary to cast restive horses. After the removal, wash with sublimate lotion, and apply pressure with a bandage, so as to check bleeding.

Grease (Gangrenous Dermatitis).

The feet must be kept clean and dry; and in order to avoid wetting of feet and adherence of snow in winter time, fat or oil may be rubbed on the fetlock and pastern-joint. After work, clean and dry the feet, cleansing with sponge and warm water, and drying with dry sawdust, wood-wool, or peat-moss. After cleaning the cracks or fissures, smear them with tar or creolin.

If gangrene has actually taken place, bathe the part in a warm sublimate or creolin solution. At night, use a bandage moistened with a 10 per cent. solution of chloride of zinc, or a 2 per cent. solution of pyoktanin; cut off loose portions with the scissors. Should a fistula form, inject sublimate solution or liquor Villati.

Grease (Chronic Warty Dermatitis).

Keep the diseased part clean, and pass a white-hot firing-iron several times over the affected surface. Wash with warm sublimate or creolin solution; dress with lint soaked in a mixture of one pint of creasote to six of methylated spirit, or one pint of chloride of zinc to ten of water, or a 5 per cent. solution of creolin.

A very good plan is, after thorough cleansing, to apply a mixture of one pint of sulphuric acid to fifteen of methy-

lated spirit, and then apply a dressing moistened with the same (Lies). Give a little gentle exercise.

If there be real warts, they may be cut off with the scissors, and when the surface is dry, apply an ointment of red oxide of mercury with lanolin.

Another good plan is to apply hot poultices of wheat-flour and linseed-meal, to which acetic acid is added as the poultice becomes firm, for twenty-four hours. Clean with a dry cloth, and wash with solution of chloride of zinc.

Habitual Constipation.—See **Constipation.**

Ball.

Aloes, one drachm.

Asafoetida, one drachm.

Powdered nux vomica, twenty grains.

Ginger and treacle, a sufficient quantity.

One ball may be given daily.

Hæmaturia.

Blood in the urine may be derived from the kidneys, ureter, bladder, or urethra. When from the kidneys, the urine is of a brownish, smoky hue, and on standing deposits a brown sediment in which blood-casts are often present. If from the bladder, the blood is not so intimately mixed with the urine, and often makes its appearance only towards the end of micturition. The urine is red, and other symptoms of vesical disease will occur. If from the urethra, the blood is voided independently of micturition. The red corpuscles may be seen in the urine by the help of the microscope. The reactions of albumen will, of course, be manifested if tested for. If a drop or two of tincture of guaiacum be added to a small quantity of urine in a test-tube, together with a few drops of ozonised ether, the

ether which collects at the top after shaking will be blue, provided blood-pigment be present.

Draught.

Solution of perchloride of iron, half a fluid ounce.

Glycerine, one fluid ounce.

Water, four and a half fluid ounces.

This draught may be given twice or thrice daily.

Draught.

Liquid extract of ergot, one fluid ounce.

Tannin, two drachms.

Diluted sulphuric acid, two fluid drachms.

Water, sufficient to make eight fluid ounces in all.

This draught may be given twice or thrice daily.

Draught.

Tincture of perchloride of iron, half a fluid ounce.

Salicine, one drachm.

Chlorate of potassium, one drachm.

Water, sufficient to make eight fluid ounces in all.

This draught may be given twice daily.

Draught.

Powdered nux vomica, twenty grains.

Powdered digitalis, twenty grains.

Citrate of iron and ammonium, one drachm.

Aromatic spirit of ammonia, one fluid ounce.

Chloric ether, half a fluid ounce.

Water, sufficient to make one pint.

Hæmorrhage.—See **Bleeding.**

This term signifies an escape of blood from the general current of the circulation; this may arise from rupture of

vessels, or from alterations in the quality of the blood, as in purpura hæmorrhagica.

Epistaxis means bleeding from the nostrils.

Melæna ,, ,, ,, bowels.

Hæmaturia ,, ,, ,, urinary passages.

Menorrhagia ,, ,, uterus.

Heart, Chronic Valvular Diseases of the.

In all diseased conditions of the heart the most careful regulation of the work and of the diet is requisite. When there is great irritability of the heart, bromides, belladonna, and spirit of chloroform are of service. As heart-tonics may be mentioned digitalis, strophanthus, iron, nux vomica, etc.

Heart, Hypertrophy of.

Draught.

Fleming's tincture of aconite, five minims.

Spirit of chloroform, one fluid ounce.

Water to six ounces.

This draught may be given thrice daily.

Draught.

Tincture of belladonna, half a fluid ounce.

Spirit of chloroform, one fluid ounce.

Water to six fluid ounces.

This draught may be given twice daily.

Draught.

Citrate of iron and ammonium, eighty grains.

Chloric ether, one fluid ounce.

Solution of hydrate of ammonium, two fluid ounces.

Water to eight fluid ounces.

Draught.

Solution of hydrochlorate of strychnine, two fluid drachms (V.P.).

Citrate of iron and ammonium, one drachm.

Solution of ammonia, one fluid ounce.

Chloric ether, one fluid ounce.

Water to eight fluid ounces.

Draught.

Solution of hydrochlorate of strychnine, two fluid drachms (V.P.).

Sulphate of iron, one drachm.

Sulphate of cinchonine, one drachm.

Diluted sulphuric acid, one fluid drachm.

Water to eight fluid ounces.

Hemiplegia.—See **Paralysis.**

Hepatitis, or Inflammation of the Liver.

Draught.

Chloride of ammonium, two drachms.

Bicarbonate of potassium, half an ounce.

Fleming's tincture of aconite, seven and a half minims.

Spirit of chloroform, half a fluid ounce.

Water to eight fluid ounces.

This draught is to be given thrice daily.

Herpes.

Draught.

Bicarbonate of potassium, one ounce.

Fowler's solution, two fluid drachms.

Water to eight fluid ounces.

This draught may either be given as a draught, or else in the water used for drinking, twice daily.

Lotion.

Sulpho-carbolate of zinc, one drachm.

Tincture of arnica, two fluid ounces.

Water to eight fluid ounces.

Ointment.

Oleate of zinc, one part.

Vaseline, two parts.

Horse-Pox—Variola Equina.

Small-pox in the horse is a specific fever of mild character, and, like that of human beings, the eruption passes through the stages of papules, vesicles, and pustules. It is also, in like manner with the corresponding human disease, capable of being transmitted in a similar manner, being both contagious and infectious, and the virus is contained in the vesicles, saliva, and crusts. By way of treatment, salines, febrifuges, and so forth may be tried, and a laxative diet is best. If the mouth be sore, gargle with a weak solution of sulphurous acid, or carbolic acid, or permanganate of potassium, or sulphate of zinc. Attend to the general hygienic conditions of the place, and do not omit to disinfect thoroughly with the fumes of burning sulphur.

Hygienic Measures.

It is a trite but very true and important observation that prevention is better than cure. By the strictest attention to sanitary measures we ought to try, so far as possible, to obviate the occurrence of disease amongst animals as well as amongst human beings. Indeed, it cannot be too strongly insisted upon that the maladies which affect animals are in a very large measure capable of being propagated to mankind. It would be very difficult to

stamp out all the infectious diseases, and probably quite impossible; but that very much can be and has been effected in this way is a most certain fact. In the case of many diseases, moreover, it is matter of general knowledge that much benefit can be effected by such simple measures as perfect cleanliness, effectual ventilation, and good and careful feeding. If we consider the great value of our horses, it is not saying too much to point out that 'a stitch in time saves nine,' that 'it is no use locking the stable-door after the steed's life has departed,' and that oftentimes a wise outlay is really an economy.

Hypertrophy of the Heart.—See **Heart.**

Draught.

Tincture of convallaria, one fluid ounce.

Citrate of iron and ammonium, one drachm.

Solution of hydrochlorate of strychnine, two fluid drachms (V.P.).

Chloric ether, half a fluid ounce.

Water to eight fluid ounces.

Draught.

Citrate of iron and ammonia, two drachms.

Sulphate of cinchonine, one drachm.

Powdered digitalis, one scruple.

Solution of sesquicarbonate of ammonium, two fluid ounces.

Chloric ether, half a fluid ounce.

Solution of hydrochlorate of strychnine, two fluid drachms (V.P.).

Water to eight fluid ounces.

To be given twice daily.

Hysteria.

Occurs sometimes in mares during the period of œstrum, and may be shown by violent kicking and great irritability. The mucous membrane of the vulva and vagina is highly congested, and the vulva may be opened and closed in rapid succession. A moderate dose of aloes should be given, and this should then be followed up with full doses of bromides or tincture of asafœtida thrice daily. The diet should be laxative.

Draught.

Hydrate of chloral, three drachms.

Bromide of potassium, two drachms.

Water to eight fluid ounces.

This draught may be given thrice daily.

Impetigo.*Draught.*

Bicarbonate of potassium, one ounce.

Fowler's solution, two fluid drachms.

Water to eight fluid ounces.

This draught may be given twice daily as a draught, or in the drinking-water.

Ointment.

Oxide of zinc, one drachm.

Lard, one ounce.

Ointment

Oleate of zinc, one part.

Vaseline, one part.

Incontinence of Urine.*Ball.*

Powdered nux vomica, twenty grains.

Carbonate of ammonium, two drachms.

Citrate of iron and ammonium, two drachms.

Ginger, gentian, with treacle or soft soap, to one ounce.
One ball to be given twice daily.

Ball.

Extract of belladonna, one drachm.

Carbonate of ammonium, one drachm.

Tartrate of iron, two drachms.

Ginger, with treacle or soft soap, to one ounce.
One ball to be given twice daily.

Indigestion, or Dyspepsia—See Acidity of the Stomach.

The causes of this condition are engorgement of the stomach, imperfect teeth and mastication, and the eating of indigestible material—such as grains, maize, musty hay, ripe vetches, wheat and barley. Severe or prolonged exertion, together with unsuitable diet, may bring about purgation, laminitis and death.

It is advisable to begin with aloes, and this may, if necessary, be followed up with castor-oil or saline purgatives. If there be much flatulence, give a full dose of spiritus ammon. arom. ; but should there be much pain, administer every three hours—

Draught.

Sulphuric ether, one fluid ounce.

Spiritus chloroformi, half a fluid ounce.

Bicarbonate of potassium, half an ounce.

Water, twelve fluid ounces.

In some forms of indigestion, where there is much fermentation, the hyposulphite or sulphocarbolate of sodium may be useful, and also diluted hydrocyanic acid in twenty or thirty minim doses. In other kinds it may be well to inject the acetate of morphia hypodermically.

In cases of chronic indigestion it is necessary to open the bowels, to regulate and often to change the diet, see to the teeth, and follow up with gentian, nux vomica, quassia and chiretta with full doses of bicarbonate of potassium.

However, in certain cases liq. bis. et amm. cit. is best, and later on it is well to try Fowler's solution and bicarbonate of potassium.

Indigestion (Acute).

Draught.

Aromatic spirit of ammonia, one fluid ounce.

Spirit of chloroform, one fluid ounce.

Bicarbonate of potassium, half an ounce.

Water to eight fluid ounces.

This draught may be given every two hours, for two or three times, and then every six hours.

Indigestion (Chronic).

Draught.

Bicarbonate of potassium, six drachms.

Spirit of chloroform, half a fluid ounce.

Aromatic spirit of ammonia, half a fluid ounce.

Tincture of ginger, one fluid ounce.

Water to eight fluid ounces.

This draught may be given once or twice daily.

Ball.

Carbonate of ammonium, one drachm.

Powdered nux vomica, twenty grains.

Chalk, two drachms.

Ginger, gentian, with soft soap or treacle, sufficient to make a one-ounce ball.

This ball may be given twice daily, for two or three days, and then once daily.

N.B.—In cases of indigestion it may often be well to administer a fairly strong cathartic in the first instance, and then to follow up with tonics, such, for instance, as a draught made thus :

Quinetum, one drachm.

Diluted sulphuric acid, two fluid drachms.

Water, sufficient to make one pint in all may be added.

Inflammation.—See **Antipyretics**, **Fever**, and also **Special Kinds of Inflammation**.

Influenza (in Acute Febrile Stage).

The animal should be kept warm with rugs, and the diet should be laxative.

Draught.

Sulpho-carbolate of sodium, one drachm.

Solution of acetate of ammonium, two fluid ounces.

Spirit of nitrous ether, one fluid ounce.

Give twice daily in a pint of water.

If laryngitis ensue, camphor and belladonna may be tried, and steam medicated with oil of eucalyptus inhaled. Poultices or blisters may be applied to the throat. When recovery is taking place, vegetable tonics with carbonate of ammonium, or full doses of sulphate of iron, may be given.

If the lungs are affected, blankets wrung out from hot-water or a counter-irritant may be applied to the chest.

If the bowels are the seat of pain, morphia and chloric ether may be used, and hot applications or a liniment applied to the abdomen. If there is constipation, use linseed-oil or Epsom salts, and if still there is no relief, give a gentle dose of calomel.

In the rheumatic form hot applications and liniments should be applied to the swellings, and internally the following

Draught.

Bicarbonate of potassium, four drachms.

Salicylate of sodium, two drachms.

Aromatic spirit of ammonium, two fluid ounces.

Spirit of nitrous ether, one fluid ounce.

Water to make one pint.

Give thrice daily.

As a rule, it is always best to combine salicylate of sodium or salicylic acid with some salt of ammonium; because these drugs have a lowering effect on the heart's action, and the ammonia prevents this. It is often very efficacious to give one drachm of antifebrin or antipyrin every two or three hours in cases of influenza, until the temperature falls to 100° F. After this fall, *small* doses of diluted hydrochloric acid combined with infusion of gentian may be found very advantageous; but the effect of this medicine must be carefully watched, and in any case it is best not to give the acid for more than a day or two.

Draught.

Solution of acetate of ammonium, four fluid ounces.

Spirit of nitrous ether, one fluid ounce.

Bicarbonate of potassium, half an ounce.

Water to eight fluid ounces.

This draught may be given thrice daily.

Draught.

(Stimulant, to be used in cases when there is great depression, as frequently is the case in animals suffering from so-called pink eye.)

Spirit of nitrous ether, half a fluid ounce.

Alcohol (brandy or whisky), four fluid ounces.

Water, four fluid ounces.

This draught may be given every three or four hours.

Draught (see 'Antiseptic Draughts').

Draught.

Ginger, half an ounce.

Gentian, two drachms.

Spirit of nitrous ether, one fluid ounce.

Water to ten ounces.

Powder.

Salicylate of sodium, one drachm.

In the case of two animals, after this salt had been administered, the temperature fell from 105° and 104·5° to 102° and 101° respectively. Indeed, salicylate of sodium is of very great value in influenza, and we may add that it is also very useful as an anti-ferment in cases of bovine tympanites. Dr. D. Astley Gresswell, late house physician at St. Bartholomew's Hospital, informs us that seventy cases of enteric fever in that hospital, under the care of Dr. Southey, from April, 1882, to April, 1883, were all treated with salicylate of sodium, and that only one of these patients died, and he within forty-eight hours of admission, as a result of peritonitis, from which the patient was suffering at the time of his entrance.

Influenza (in Later Stages).

Any of the draughts and balls mentioned under 'Anæmia' and 'Debility' will prove valuable. The ordinary cough or fever or stimulating tonic balls may be given.

Intestinal Obstruction.

The chief indication is to remove the obstructing material, and this may sometimes be effected best by enemata of warm water, or by manual exploration of the rectum. When very great distension of the bowel causes great pain and distress, especially if it be due to gases in great part, tapping with a very fine trocar and due precautions may be carried out.

Of drugs, tincture of opium and sulphuric ether are valuable, and in some cases purgatives may be necessary, whilst hot fomentations or woollen cloths wrung out from hot water are often very comforting and beneficial.

Intestinal Rupture.

In cases of rupture of the colon the horse often sits on his haunches, as also in twist, and other kinds of strangulation.

Iritis.*Draught.*

Solution of acetate of ammonium, four fluid ounces.

Water, four fluid ounces.

This draught may be given thrice daily.

Lotion.

Sulphate of atropine, four grains.

Water, one fluid ounce.

Lotion.

Sulphate of eserine, two grains.

Water, one fluid ounce.

Jaundice—Icterus.

A good saline purgative or a moderate dose of aloes is useful. Sometimes tonics with nitro-hydrochloric acid thrice daily may be tried. Chloride of ammonium and calomel are beneficial.

Draught.

Sulphate of sodium, four ounces.

Bicarbonate of sodium, one ounce.

This draught may be given in the drinking-water twice daily.

Ball.

Gray powder, half a drachm.

Aloes mass, five drachms.

Powder.

Calomel, half a drachm.

This powder may be given in the mash, or placed on grass and passed into the mouth. This may be administered every day.

N.B.—To animals suffering from jaundice two pounds of crushed linseed may be given in the food every day.

Kidneys, Congestion of.

Rest, laxatives, and warm fomentations to loins.

Laminitis (Acute).

In the first instance a cathartic ball may be given, and in plethoric cases the animal may be bled from the jugular vein. Scarification of the coronet is also useful. The feet may be treated with cold poultices, and the coronets with

blisters or stimulating liniment, or with lotions composed of methylated spirits and subacetate of lead. Supply a good warm straw bedding, remove the shoes, and let the animal lie at ease, having clothed it with rugs.

About six grains of pilocarpine, to cause diaphoresis, may be useful, and hypodermic injections, to assuage pain, are valuable. In winter-time give hay and bran mashes. In summer, grass in moderation may be allowed in addition. A little gentle exercise may be beneficial at an early stage of cure.

In cases of dropped sole, shoes with thick heels must be applied, and the heels of the hoofs lengthened as much as possible.

Draught.

Bicarbonate of potassium, one ounce.

Spirit of chloroform, half a fluid ounce.

Water to eight fluid ounces.

Draught.

Bicarbonate of potassium, one ounce.

Fleming's tincture of aconite, five minims.

Spirit of nitrous ether, one fluid ounce.

Water to eight fluid ounces.

This draught may be given every six hours.

Laryngitis.

The vapour of hot water, generated by pouring boiling water over chopped hay or bran placed in a nose-bag, and medicated with tincture of opium, may be tried. Every four hours, until the symptoms abate, a draught of one

fluid ounce of liq. amm. acet. and one drachm of extract of belladonna may be administered.

Draught.

Solution of acetate of ammonium, four fluid ounces.

Bicarbonate of potassium, half an ounce.

Tincture of belladonna, half a fluid ounce.

Water to eight fluid ounces.

This draught may be given every six hours.

Draught.

Solution of acetate of ammonium, half a fluid ounce.

Powdered ipecacuanha, one drachm.

Powdered camphor, one drachm.

Spirit of nitrous ether, one fluid ounce.

Water to six fluid ounces.

Draught.

Solution of acetate of ammonium, half a fluid ounce.

Spirit of nitrous ether, one fluid ounce.

Extract of belladonna, one drachm.

This draught may be given every six hours.

Inhalation.

Carbolic acid, one fluid ounce.

Sulphuric ether, one fluid ounce.

Methylated spirit, one fluid ounce.

Chloroform, one fluid ounce.

One tablespoonful of the above mixture to be placed in a bucket of hot water, and held under the animal's nose for a few minutes.

Leucorrhœa.*Ball.*

Any of the formulæ mentioned under the heading of 'Anæmia,' or under that of 'Debility,' may be used.

Lotion.

Permanganate of potassium, twenty grains.

Water, one pint.

Lotion.

Sulphocarbolate of zinc, twenty grains.

Water, one pint.

Lice.—See **Pediculi.**

Liver, Congestion of the—Interstitial Hepatitis.

Aloes, and then sulphate of sodium or magnesium, are useful. The diet should be limited and exercise enjoined. When the congestion is not due to cardiac or pulmonary disease, moderate bleeding may be tried.

Liver, Cirrhosis of the (*χίρρος*, yellow)—Chronic Interstitial Hepatitis.

Sulphate of sodium or magnesium, with tonics twice daily. If ascites be present, it may be wise to perform paracentesis, or in any case to give diuretics.

Lockjaw.—See **Tetanus.**

Lymphangitis, or Weed (Acute and Chronic).—See Elephantiasis.

In this disease the lymphatic glands are inflamed, and the inflammation spreads to the absorbents and blood-vessels of one or more of the limbs, which then become

swollen and œdematous. Both hind-limbs may be affected, and, rarely, a fore-limb. Weed is generally associated with mal-assimilation and impairment of digestion, and it is especially liable to occur in heavy draught-horses. Sometimes one seizure succeeds another periodically, until at last the limb assumes a permanently enlarged condition known as elephantiasis.

In the early stages of plethoric cases, bleeding from the jugular vein is a very useful measure, and in addition to this it is advisable to administer about three drachms of aloes.

Draught (to be given every six hours, mixed with six fluid ounces of water).

R. Liq. ammon. acet., f. ℥iv.
Pot. nitratis, ℥ii.
Pot. bicarb., ℥iv.
Sp. æth. nitrosi, f. ℥ss.
Fleming's tinct. aconiti, ℥v.
Tinct. colchici, f. ℥ss.

It may also be well to give half a drachm of calomel once daily. Moreover, the affected limb should be fomented with warm water, to which tincture of opium or other anodynes may be added, and after the fomentation the limb should be supported with bandages. Iodide of potassium may also be useful sometimes, and in cases of long standing, mercurial balls may be tried.

Mad Staggers.—See **Encephalitis.**

Maggots.

Local Application.

Oil of turpentine, one fluid part.
Linseed-oil, three fluid parts.

Lotion.

Perchloride of mercury, two drachms.

Water, sufficient to make one pint.

This lotion, or the tincture of perchloride of mercury mentioned under the heading 'Fistulæ,' may be used in lieu of it.

Ointment.

Ammonio-chloride of mercury, half a drachm.

Adeps benzoatus, one ounce.

Ointment.

Ointment of nitrate of mercury.

Maladie du Coit—Syphilis du Chéval.

This is a specific contagious disease, manifested in its early stages by lesions in the urino-genital organs. M. Trelut gives fifteen drachms of fibrin as an electuary, or in gruel as a drench. One drachm of reduced iron may also be given alternately with white arsenic in a dose of about five grains. Should paralysis ensue, cantharidine liniments, followed by mustard poultices, should be applied to the abdomen. In the mare, emollient lotion or a weak solution of permanganate of potassium may be injected.

Mallenders.

Draught (see form prescribed for Erythema).

Ointment.

Citrine ointment.

Ointment.

Ointment of tar.

Mammitis.

The pulse is accelerated to about 82, the respiration, too, is quickened, and the temperature may be 104° F. The mammæ are hard and tumefied, hot, painful, and tender. The swelling may increase for several days, until the whole under-surface of the abdomen may be swollen, and the inguinal glands affected. The udder must be fomented and external dressings applied, and fever medicine must be administered.

Draught.

Tincture of belladonna, four fluid drachms.

Spirit of nitrous ether, one fluid ounce.

Water, sufficient to make six fluid ounces in all.

This draught may be given thrice daily.

Draught.

Bicarbonate of potassium, one ounce.

Water, to make eight fluid ounces of solution.

Liniment.

Belladonna liniment.

Mange.*Ointment.*

Oil of stavesacre, one fluid drachm.

Benzoated lard, one ounce.

Ointment.

Sulphur, one ounce.

Benzoated lard, one ounce.

Ointment (best).

Ointment of sulphur, half an ounce.

Ointment of stavesacre, half an ounce.

White precipitate of mercury, fifteen grains.

Liquid Application.

Peruvian balsam.

Lotion.

Powdered white hellebore, six ounces.

Turpentine, one pint.

Sulphur, one pound.

Linseed-oil or whale-oil, sufficient to make one gallon in all.

Megrims and Vertigo.

These are due to an irregularity or disturbance of the cerebral circulation.

Draught.

Bromide of potassium, two drachms.

Water, one fluid ounce.

This draught may be given thrice daily for a day or two ; afterwards tonics will be required. (See 'Debility.')

Draught.

Tincture of iron, two fluid drachms.

Diluted hydrochloric acid, one fluid drachm.

Muriate of cinchonine, one drachm.

Water, sufficient to make half a pint.

Metritis.

In cases of acute septic metritis marked inflammation of the uterus may occur from within a few hours to three or four

days after parturition. It is an extremely fatal disease, and results from injuries to the uterus and vagina during delivery, and retention in greater or less degree of the placental membranes. It is due to absorption of septic material from the parturient canal, and secondary foci may occur in the brain, lungs, and other organs. The vagina and uterus must be washed out with injections of Condyl's fluid, or some other antiseptic, well diluted with warm water. Alcoholic and other stimulants, salicylate of sodium, or quinine, should be given if the temperature be high. For the abdominal pain opium and hot fomentations are required.

Draught.

Fleming's tincture of aconite, five minims.

Salicylate of sodium, one drachm to two drachms.

Water to six or eight fluid ounces.

This draught may be given at intervals of four hours.

Local Application.

Carbolic acid, one fluid part.

Glycerine, three fluid parts.

Water, two hundred fluid parts, or, if a stronger application be desired, only one hundred parts.

Mortification.—See Gangrene.

Mud Fever.

Draught and local applications prescribed under 'Erythema.'

Nasal Gleet.

Draught.

Liquor arsenicalis, two fluid drachms.

Iodide of potassium, two drachms.

Water, sufficient to make eight fluid ounces in all.

This draught may be given twice daily.

Ball.

The same ball as that mentioned under 'Anæmia' and 'Debility' may be given.

Ball.

Iodine, twenty grains.

Powdered ginger, two drachms.

Powdered gentian, two drachms.

Treacle, a sufficient quantity.

This ball may be given twice daily.

Insufflation.

Iodoform, one part.

Starch, two parts.

About a drachm of the above mixture may be injected up the nostrils by means of a nasal insufflator twice daily.

Fumigating Powder.

Sulphur, one ounce.

Tincture of iodine, two drachms, or as much as one ounce, so as to saturate the sulphur.

About half an ounce of this mixture may be sprinkled on hot coals, held on a pan under the animal's nose, so that the animal may breathe the fumes.

Nephritis (*νεφρον*, the kidney).

This disease is rarely met with in the horse. In acute nephritis the cellular structure is involved, whereas in chronic cases it is the interstitial tissues which are mainly affected. In cases of acute nephritis caused by cold or

exhaustion, provided the pulse be strong, bleeding is beneficial. Those cases, however, which supervene on various fevers, or those which are due to injury, do not bear depletion, and in them tincture of aconite does good. Aloes should be given, and its effect followed up with sulphate of sodium or magnesium. Opium should *not* be given, and the pain must be relieved by applying woollen cloths wrung out from hot water, or by linseed poultices, over the loins. The fomentations and poultices may contain belladonna or digitalis. The diet should be laxative, and consist of linseed, oatmeal gruel, and bran mash. After the acute symptoms give salts of iron and vegetable tonics.

Draught (every six hours).

R. Tincture of belladonna, f. $\bar{5}$ ss.

Acetate of potassium, $\bar{5}$ i.

Tincture of aconite (V.P.), $\mathfrak{M}$ xx.

Liq. ammon. acet., f. $\bar{3}$ ii.

Water to make about f. $\bar{3}$ viii.

Obstruction of the Bowels.—See **Purgatives.**

Œsophagus, Inflammation of the.

Give linseed gruel with a little tincture of opium, and apply hot-water fomentations and liniments. Stricture may follow severe inflammation.

Œsophagus, Stricture of the.

It is wise to carefully pass a probang, so as to ascertain the cause of the obstruction.

Œsophagus, Spasm of the.

Pass the probang. Morphia in fairly full dose should be injected hypodermically, and laxatives, followed by tonics, should be administered.

Œstrus Equi.

The bot, which is the larval form of the gadfly, is red, and has eleven segments arranged in double rows. The gadfly lays its eggs late in summer on the neck, shoulders, and inner part of the fore-leg, especially about the knees, and fixes them by means of a sticky secretion. The horse licks these parts with the tongue, whence they gain access to the stomach, where they fix on to the mucous membrane by their hooks. When full-grown, they escape with the fæces, and bury themselves in the soil, where they become pupæ, and then, after being in the earth about six or seven weeks, they emerge from their cocoons as perfect dipterous insects. The bots live in the stomach during the winter months, leave in spring or early summer, and remain in the soil from June to September, and all perish in October. As a rule they do not do much harm, but they may cause rupture, perforation, or tetanus.

Draught.

Oil of turpentine, f. ʒi.

Linseed-oil, f. ʒxix.

Draught.

Glycerine of carbolic acid, f. ʒii.

Ether, f. ʒii.

Linseed-oil, f. ʒvi.

Draught (Cobbold).

Sulphuric ether, f. ʒii.

Solution of carbonate of sodium, f. ʒvi.

This draught is to be given to the horse when the stomach is empty.

Draught.

Sulphuric ether, two fluid ounces.

Oil of turpentine, one fluid ounce.

Also to be given when the stomach is empty.

Open Joint.

Draughts (see 'Fever' and 'Antipyretics').

Injectons.

(1) Nitrate of silver, ten grains.

Water, one fluid ounce.

(2) Creasote, half a fluid drachm.

Glycerine, two fluid drachms.

Water, sufficient to make one fluid ounce.

(3) Sulpho-carbolate of zinc, five grains.

Water, one fluid ounce.

Ointment.

Blistering ointment (cantharides) should be applied to the edges of the wound.

Ophthalmia (Recurrent or Periodic).

In the first instance a cathartic may be given, and the animal may be bled from the eye-vein.

Draught.

Sulphate of cinchonine, one drachm.

Spirit of chloroform, half a fluid ounce.

Diluted sulphuric acid, one fluid drachm.

Water, sufficient to make eight fluid ounces in all.

This draught may be given thrice daily.

Draught.

Tincture of belladonna, four fluid drachms.

Bicarbonate of sodium, one ounce.

Nitrate of potassium, two drachms.

Spirit of nitrous ether, one fluid ounce.

Water, sufficient to make six fluid ounces in all.

This draught may be given twice daily.

Lotion.

Sulphate of atropine, four grains.

Water, one fluid ounce.

Lotion.

Tincture of opium, one fluid drachm.

Tincture of lavender, one fluid drachm.

Solution of acetate of lead, one fluid drachm.

Water, sufficient to make eight fluid ounces in all.

N.B.—In certain cases advantage may result from the insertion of a seton under the eye.

Ophthalmia, Simple (in Early Stage).

Lotion.

Sulphate of atropine, four grains.

Water, one fluid ounce.

Ophthalmia, Simple (in Later Stage).

Lotion.

Solution of acetate of lead, ten minims.

Tincture of opium, ten minims.

Water, one fluid ounce.

Lotion.

Tincture of opium, half a fluid drachm.

Solution of acetate of lead, half a fluid drachm.

Tincture of lavender, half a fluid drachm.

Water, sufficient to make eight fluid ounces in all.

Orchitis.

The first indication is to rest the animal and apply a suspensory bandage to support the inflamed testicle. Low diet must be given, and, if necessary, a little blood may be abstracted. An aperient may be administered when requisite. Mercurial ointment and belladonna poultices may be used locally, iodide of potassium given internally. In cases having a traumatic origin, cold water or solution of subacetate of lead may be applied in the first instance; but as a rule the veterinarian is not called in at once. Should there be formation of pus, an incision so as to afford an outlet, or even castration, may be advisable. If portions of the spermatic cord be found to be diseased, these should be removed.

Oxaluria.

In the urine oxalate of calcium appears, and the animal suffers from debility, loss of flesh, stiff loins, and scurf on the skin. Begin with a cathartic dose, and then vegetable tonics and mineral acids, *e.g.*, diluted nitro-hydrochloric acid with tincture of nux vomica and gentian, may be given thrice daily. If lime be present in the drinking-water, the latter should be changed.

Draught.

Tincture of nux vomica, two fluid drachms.

Bicarbonate of potassium, half an ounce.

Tincture of ginger, half a fluid ounce.

Tincture of calumba, one fluid ounce.

Water, sufficient to make six fluid ounces in all.

This draught may be given twice daily.

Ozæna.—See **Nasal Gleet.**

Palpitation of the Heart.

The same draught and ball may be given as those mentioned under the heading of 'Heart, Hypertrophy of.'

Paralysis—Hemiplegia and Paraplegia.

Supply a nice soft dry bed, and turn the animal over frequently, giving easily-digestible food. Keep the rectum and the bladder empty. In case of superficial mechanical injuries, rest the horse and use cold applications, and Preistnitz' poultices, or, if there be rheumatism, hot bran or sand will be useful. The muscles may be rubbed with stimulating embrocations or massaged. In some cases it will be advisable to place the animal in slings. If there be myelitis or meningitis, blisters may be applied along the course of the cord in several places.

Draught.

Tincture of nux vomica, two fluid drachms.

Aromatic spirit of ammonia, one fluid ounce.

Water, sufficient to make eight fluid ounces in all.

This draught may be given twice daily.

Paraplegia Enzoötica—Reflex Paraplegia.*Draught.*

Solution of hydrochlorate of strychnine, one fluid drachm (V.P.).

Sulphate of iron, one drachm.

Sulphate of cinchonine, one drachm.

Aromatic or diluted sulphuric acid, one fluid drachm.

Water, sufficient to make eight fluid ounces in all.

This draught may be given twice daily.

Parotitis.

Hot fomentations, or linseed poultices, or Preistnitz' poultices, or inrubbing of warm oil. Sometimes a cantharides blister or the application of tincture of iodine may be advisable. If pus forms, and there be *marked* fluctuation or dyspnœa, make an incision in a line parallel to the course of the large vessels, taking care to avoid them, the nerves, and the parotid duct. Some authorities (Möller) advise cutting first through the skin and thick connective tissue, and then gently thrusting the forefinger into the abscess. Sometimes, so great is the dyspnœa, that even tracheotomy may be in question, before the enlarged gland can be incised. Tonics coupled with stimulants facilitate recovery.

Parturient Fever.

This occurs in from one to three days after parturition, and generally ends in recovery, if due care be taken. The diet should be laxative and restricted in amount. A mild oleaginous purgative should be given. The most useful drugs are liq. amm. acet., spirit of nitrous ether, and two-drachm doses of salicylic acid given thrice daily.

Pediculi, or Lice.*Compound Liniment of Stavesacre.*

(1) Powdered stavesacre-seeds, two ounces.

Soft soap, two ounces.

Boiling water, sufficient to make twelve fluid ounces in all.

Boil well for twenty minutes, or even as long as one hour, and then wash off.

(2) Powdered stavesacre-seed, two ounces.

Olive-oil, one fluid ounce.

Adeps, eight ounces.

Lotion.

Jeye's fluid, six fluid ounces.

Water, sufficient to make one quart in all.

Lotion.

Creasote, three fluid drachms.

Alcohol, two fluid ounces.

Water, sufficient to make half a pint in all.

Lotion.

Tobacco, four drachms.

Hot water, one pint.

Lotion.

Liquor carbonis detergens, two fluid ounces.

Water to a pint.

Ointment.

White precipitate of mercury, one part.

Simple ointment, twelve parts.

Pericarditis.

Inflammation of the pericardium may occur as a primary affection owing to exposure to cold and damp, or from fatigue. It is, however, very generally met with as a complication of other diseases, especially rheumatic fever, strangles, influenza, purpura, pyæmia, and various septic conditions. The process of inflammation may have spread from the lungs and pleura on to the pericardium, or it may arise as a consequence of the irritation of new growths or parasites present in the sac, or of wounds or injuries, such as fractured ribs.

Draught.

Liq. amm. acet., f. $\bar{\text{z}}$ iv.

Tinct. aconiti (V.P.), ℥xx.

Sp. eth. nit., f. ʒi.

Sp. chloroformi, f. ʒss.

Water, to make eight fluid ounces four times daily.

Should the pain be obstinate in character, tincture of opium may be substituted for the aconite, or ether or belladonna tried. According to some, tincture of convallaria in one ounce doses is useful. In certain cases it is well to begin treatment with abstraction of a moderate amount of blood if the symptoms be urgent, and then to follow up with the above draught for a time. As in pleurisy, the use of woollen cloths wrapped round the chest is beneficial, and the left side may also be well rubbed with a liniment containing tincture of opium. After the early stages, it is often advisable to apply a cantharides blister over the cardiac region, and stimulants and tonics may be given, the salts of iron being useful. In cases where the disease has a rheumatic origin, as often happens, diuretics, the iodide and the bicarbonate of potassium, digitalis, spirit of nitrous ether, and salicylates should be administered. In very rare instances, when there is a serious interference with the heart's action, puncturing of the pericardial sac may be performed.

Periproctitis.

If, as a result of the inflammation, an abscess has formed, it may be opened through the vagina or the skin and tissue lying round the rectum. Care must be taken not to cut the sphincter ani. The cavity of the abscess must be well washed out with disinfecting fluid, and all needful measures taken with a view to drainage.

Peritonitis (περιτεϊνω, 'I stretch around') (**Acute**).

Inflammation of the peritoneum is, fortunately, not of frequent occurrence in the horse. Cold, damp, and

insufficient food may be mentioned as predisposing causes of idiopathic peritonitis. The traumatic form of the disease results from wounds of the abdomen and several surgical operations implicating the peritoneum, such as castration and operations for hernia, or as a consequence of injuries from within, such, for instance, as rupture, or perforation of organs in connection with it, or bursting of the bladder from over-distension. Peritonitis, either general or localized, may be set up by communication of inflammation from the bowels, liver, uterus, and mammary glands. Secondary peritonitis may occur in certain specific fevers and constitutional diseases. Blood may be abstracted in the early stage, and tincture of aconite is useful, together with full doses of opium or hypodermic injection of morphia. Hot fomentations and liniments containing opium may be tried. To the water supplied for drinking add liq. amm. acet., or other saline. After subsidence of the acute symptoms, half-drachm doses of digitalis with sp. æth. nit. and liq. amm. acet. every three or four hours. Tonics may be given to hasten recovery.

Draught.

Fleming's tincture of aconite, eight minims.

Tincture of opium, one fluid ounce.

Spirit of chloroform, half a fluid ounce.

Water, sufficient to make six fluid ounces in all.

This draught may be given every four hours.

Draught.

Tincture of opium, one fluid ounce.

Spirit of chloroform, one fluid ounce.

Water, six fluid ounces.

This draught may be given every four or every eight hours.

Hypodermic Injection.

Hypodermic injection of morphine, forty minims every three or four hours.

Peritonitis (Chronic).*Draught.*

Tincture of perchloride of iron, one fluid ounce.

Tincture of digitalis, two fluid drachms.

Oil of juniper, one fluid drachm.

Spirit of nitrous ether, one fluid ounce.

Water, sufficient to make eight fluid ounces in all.

This draught may be given every six hours.

Draught.

Ol. terebinth. f. $\bar{z}$ i.

Potass. iodid., $\bar{z}$ ii.

Ol. ricini, q.s. ad f. $\bar{z}$ viii.

Pharyngitis.

In cases of acute catarrh of the pharynx, inhalation of carbolyzed steam or of eucalyptus (a little tincture of opium being in each case added) is useful. A gargle of chlorate of potassium, or of a weak solution of sulphurous acid, or of perchloride of mercury (1 in 2,000), together with hot fomentations applied externally around the throat, is beneficial. If the inflammation be chronic, liniment or blisters should be used instead, in like manner, over the throat.

If a post-pharyngeal abscess have formed, inhalation of steam and hot fomentations may be tried, and it may become necessary in some cases to open the abscess, but if so, the very greatest care must be taken to avoid the large vessels.

Phimosis.

First thoroughly clean the glans and the prepuce, cut off displaced hairs with the scissors, place the animal on its back, insert a little oil on the parts, grasp the prepuce on the outside with the forefinger and thumb, and draw it gently over the glans, pressing the latter at the same time backwards. It may in severe cases be necessary to lay open the lower border of the prepuce. Wash with a solution of acetate of zinc or of alum.

Phlebitis Venæ Jugularis.

Sometimes it may happen, after abstracting blood from the jugular vein and removing the pin a day or two subsequently, that the vein, instead of being dry, is swollen, and discharges dark blood, and this swelling may increase so that the vein becomes a round, firm cord.

In order to prevent this occurrence, the collar should not be worn for twenty-four hours after bleeding, and the fleam or lancet should never be applied twice at the same spot. When the wound made by the lancet does not close after the pin has been taken out, wash the spot with sublimate or carbolic solution. Other points by way of prevention are that, after thrombosis has taken place, the vein should not be re-opened; also the application of warm antiseptic lotion, and rubbing in a little unguentum hydrargyri very gently so as to avoid setting emboli free. If an abscess has formed, it may be opened. One plan is to apply a ligature above and one below, and cut down and remove the hardened piece of vein, great care of course being taken not to injure the carotid, which is situated close by. For this purpose it may be well to use a blunt instrument or the fingers, and sometimes the vein can be torn away after ligature with moderate traction.

The animal should be kept quiet and fed on fluid nourishment for a time.

Pityriasis.

Draught.

R. Liquor Fowleri, f. ʒii.
Potassii bicarbonatis, ʒvi.
Aquæ, ad f. ʒviii.

The above may be given twice daily as directed, or in the water supplied for drinking. After a time give ordinary tonics.

Ointment.

R. Hydrargyri ammoniati, ʒi.
Acidi carbolici, ℥ xxx.
Vaselini, ʒi.

Plethora.

This condition occurs in cart-horses and pets, and may lead to dangerous diseases.

Pleurisy (Acute Stage).

Should the inflammation affect one part only of the pleura, the sign of this condition is a friction sound at the spot implicated. If the whole or greater part of one pleura be affected, that side moves but little, and is retracted, whilst dulness on percussion, weakened respiration, friction sound, and hectic fever, are manifested.

When the attack is of an acute sthenic type, moderate bleeding up to about three quarts in the early stages may do good, but as a rule it is best not to bleed. Saline febrifuges and tincture of opium may be given, and Fleming's tincture of aconite in five or six minim doses every four hours is a valuable remedy in the acute stages.

Should the abdominal pain be great, inject about forty minims of liq. morph. hydrochlor. into the subcutaneous tissue at the point of the sternum. Woollen cloths wrung out from hot water should be placed round the chest, protected by a blanket to keep the heat in, and they may be renewed five times daily so long as the acute symptoms last, and then followed up with liniments. About four ounces of whisky may be given thrice daily, and about three drachms of iodide of potassium in the drinking-water twice or thrice daily. Quinine and iron salts remove the debility. Abstraction of the fluid by puncturing the chest-wall in the eighth or ninth intercostal space at the mid-point of the effusion with the trocar and cannula, or pneumatic aspirator, may be performed when necessary, and sometimes it may be wise to repeat the operation in a couple of days.

Draught.

R. Liq. ammon. acet., f. ℥iv.

Sp. ætheris nitrosi, f. ℥i.

Pot. bicarb., ℥ss.

Aquæ, ad f. ℥vi.

This draught may be given every six hours, and also five minims of Fleming's tincture of aconite in water. A fever-ball may also be given, and hot rugs should be applied to the chest. At a later stage, if the animal progresses favourably, a simple vegetable tonic or the ordinary tonic stimulating ball may be given.

Pleurisy (Later Stage).

Draught.

Diluted hydrochloric acid, two fluid drachms.

Quinetum, one drachm.

Tincture of nux vomica, one fluid drachm.

Spirit of nitrous ether, half a fluid ounce.

Water, sufficient to make six fluid ounces in all.

Pleuritic Effusion.

Draught.

Iodide of potassium, two drachms.

Spirit of nitrous ether, one fluid ounce.

Oil of juniper, one fluid drachm.

Water to six fluid ounces.

This draught may be given thrice daily.

Draught.

Oil of turpentine, one fluid ounce.

Iodide of potassium, two drachms.

Castor-oil, sufficient to make eight fluid ounces in all.

This draught may be given twice daily.

Pneumonia.

Place the horse in a well-ventilated loose-box, clothe the body with rugs after rubbing it down with wisps of hay. In the case of plethoric animals bleeding may be resorted to, about four quarts of blood being extracted, but in cases of secondary pneumonia never bleed. The hot pack, renewed every two hours, gives great relief during the acute stages. Allow plenty of tepid water, and begin treatment with a cathartic dose if requisite, or, better still, the usual fever-ball, with about two drachms of aloes added to it.

Draught (in plenty of water every four hours).

R. Fleming's tinc. aconiti, ℥v.

Liq. amm. acet., f. ʒiv.

Sp. æth. nitrosi, f. ʒi.

Potass. nit., ʒii.

Potass. bicarb., ʒss.

Opium should only be given when there is pleuritic pain, and it is well to always abstain from active purgatives, and only give enemias or small doses of oil. When the pulse is weak, give stimulants, *e.g.*, about seven fluid ounces of whisky thrice daily, if it prove beneficial. On the other hand, bromides may be useful when the breathing becomes worse. Tonics are useful during convalescence.

Poisoning.

ARSENICAL.—Hydrated sesquioxide of iron or hydrate of magnesium are useful. Hot rugs should be applied to the abdomen. Stimulants, *e.g.*, port wine or brandy, with linseed and oatmeal gruel. If the poisoning be of a chronic nature, tonics, especially iron, and a good diet.

Horse-owners should insist on no drugs being given to their horses except such as they themselves or their veterinary surgeon order. It is absurd to expect a knowledge of therapeutics to be possessed by those who have not specially studied this intricate subject. The fact is that it may be easier in some cases to produce a shining coat with dangerous medicines than with rubbing down, and no doubt this kind of thing still goes on *sub rosa*, and all such practices ought to be discontinued, and, if necessary, exposed and stopped. In every stable a cardinal rule should be: 'Good, honest rubbing-down, fair coats, and no poisons. If a horse be ill, send for the veterinary surgeon.'

It seems very difficult to put a stop to these customs. Chronic arsenical poisoning still occurs, and so long as grooms pride themselves so much on shining, glossy coats, and think they can safely use poisonous medicines, it will

go on, unless checked. In chronic arsenical poisoning there is, as a rule, intermittence of the pulse, and often a diseased heart. Should a horse catch a chill, pleurisy and pericarditis will be likely, and the temperature may be so high as to avert suspicion of arsenic. The horse dies of pleurisy, pericarditis, and heart disease, but it may perhaps have been primarily induced by arsenic. At the same time a post-mortem may reveal gastro-intestinal irritation more or less marked.

During life the horse may have shown signs of *pottering* a little when first leaving the stable, and, although being in very good condition, with a splendid coat, when resting after a good run, or after going up-hill, shakes the whole trap with its blowing respirations and heaving heart-beat. When a horse is under the influence of arsenic, it easily takes cold, and then the pleurisy and pericarditis may quickly bring about a fatal issue.

If men realized the harm done by giving arsenic, it would not be so much used; but the fact is that deaths brought about really by arsenic are often put down to pleurisy, pericarditis, inflammation of the lungs or of the bowels. These are sometimes merely the secondary, and not the primary, causes, the organs having been rendered unduly vulnerable by the poison.

LEAD.—Lead is generally taken inadvertently, and hence the source of the metal should be ascertained, and the animal removed therefrom. Sulphate of magnesium or sulphate of sodium, together with sulphuric acid and sulphur, whereby sulphate and sulphide of lead are formed, should be given. If there be pain, morphia and hyoscyamus are useful, but one must be careful to keep the bowels open, and it is better to assuage the pain so far as possible with hot woollen cloths. The sulphuric acid may be given every

three or four hours for two or three days. Saline purgatives are most valuable. When the lead has been taken for some time, so that the poisoning is chronic, a moderate purge and then iodide of potassium, in a moderate dose at first, may be given.

YEW-TREE FOLIAGE.—Oleaginous purgatives and stimulants, *e.g.*, *sp. amm. arom.*, and nitric ether are useful.

CORROSIVE SUBLIMATE.—The best antidotes are white of egg mixed with water, or thick starch, or arrowroot.

OPIUM.—Give stimulants, alcoholic, strong coffee, etc., and keep the animal awake by leading it about.

HELLEBORE.—Aperient medicine, followed by tonics and stimulants, is best.

WATER DROP-WORT.—Vinegar and gruel.

CANTHARIDES.—Oily and demulcent liquids in large quantities.

Poll Evil.

Slight pressure, steadily applied by means of a towel moistened with cold applications and folded several times, may cause a reabsorption of extravasated material. The horse should be rested in a loose-box, and if not convenient to place the animal in a box, a neck-strap should be used instead of a halter. When the acute stage of inflammation has subsided, ointment made of one part of sublimate to ten of lard should be applied, and renewed again after a time.

Should pus have formed, longitudinal incisions must be carefully made, avoiding the occipital artery, and, if possible, keeping $1\frac{1}{2}$ inches away from the ligamentum nuchæ, unless necrosis has already occurred, in which case section of the funicular portion and removal of the necrosed parts is advisable. Counter-openings may be necessary, and setons

or drainage-tubes inserted, and the pus must be washed away from the abscess and bursa twice daily. In case of pus burrowing amongst the muscles of the neck, the knife must be used courageously and carefully.

Dressings.

- (1) Black oil.
- (2) ℞ Acidi carbolici, f. ʒi.
Glycerini, f. ʒi.
Aquæ, f. ʒii.
- (3) ℞ Potassii permanganatis, gr. xxx.
Aquæ, f. ʒii.
- (4) ℞ Liquoris hydrargyri perchloridi (1 in 1,000).

Proctitis (Inflammation of the Mucous Membrane of the Rectum and Anus).

First remove any hard masses of fæces and foreign bodies, then give a clyster of mucilaginous solution, or starch paste with a little oil, and repeat when necessary. Cut off long hairs round the anus with scissors, cleanse, and powder the surface with a mixture of tannic acid and iodoform.

If there be any suppuration of the anal glands, these should be incised, cleaned, and packed with iodoform gauze.

Laxative food, clysters, and aperient medicines should be given.

Prolapsus et Inversio Vesicæ in Female Animals.

Clean carefully and replace, and then inject lukewarm fluid into the replaced bladder. If the rupture in the lower wall of the vagina is not far from the vulva, suturing may be useful.

Prophylactic Treatment, or Prophylaxis.

This term really means an avoiding of the causes of disease.

Prurigo.*Draught.*

Bicarbonate of potassium, six drachms.

Tincture of aconite (V.P.), twenty minims.

Water to six fluid ounces.

This draught may be given thrice daily, as a draught, or, if preferred, in the drinking-water, or else as a powder in the food.

Lotion.

Diluted hydrocyanic acid, four fluid drachms.

Carbonate of potassium, one ounce.

Glycerine, one fluid ounce.

Water, sufficient to make ten fluid ounces.

Ointment.

White precipitate of mercury, one part.

Lard or vaseline, ten parts.

Psoas Muscles, Strain of.*Liniment.*

Belladonna liniment, eleven fluid parts.

Tincture of opium, one fluid part.

Lotion.

Tincture of opium, one fluid part.

Water, five fluid parts.

Psoriasis.—See Mallenders.

Ptyalism—Salivation.

If there be any irregularities of the teeth, see to this matter. Gargles of alum or of chlorate of potassium and belladonna are useful.

Puerperal Fever.

Injections of antiseptic lotions should be used locally, and febrifuges given internally.

Pulmonary Congestion.—See Congestion of Lungs.**Pulmonary Œdema.**

Is distinguished from bronchitis by the symptoms rather than by the signs. There are sharp, reverberating, small mucous râles, *i.e.*, crepitation, which hide the respiratory sounds. This disease is always bilateral, and there is almost always some hydrothorax in addition on both sides, unless one pleural sac be obliterated by adhesions. Inspiratory dyspnœa, as also in bronchitis, is one of the chief symptoms of this condition.

Pulmonary Phthisis.

Occurs when the tubercle forms massive consolidations, which tend to break down and ulcerate.

Purgatives.*Ball-mass.*

Barbadoes aloes, six pounds.

Rectified spirit, half a pint.

Soft soap, half a pound.

Melt together, and add (over a water-bath) two fluid ounces of oil of peppermint. Mix. The dose is from two to eight drachms of this mass made up into a ball.

Ball.

Powdered aloes, six drachms.
Ginger, one drachm.
Soft soap, a sufficient quantity.

Ball (Laxative).

Calomel, one drachm.
Powdered opium, twenty grains.
Flour and glycerine, sufficient to make a one-ounce ball.

Ball (Laxative).

Podophyllin, one drachm.
Ginger, gentian, and treacle, sufficient to make a one-ounce ball.

Purpura Hæmorrhagica.

This is an eruptive, non-contagious, intermittent fever, characterized by petechiæ on the mucous membrane, and by elevations of cutaneous tissue. It is generally a sequel to debilitating diseases, *e.g.*, influenza, catarrhal fever, and strangles. Purpura may also occur as a result of defective ventilation, bad drainage, and poisonous effluvia. Antiseptics, such as salicylic acid or chlorate of potassium, may be tried. The salts of ammonium are to be avoided. Astringents, *e.g.*, ergot of rye, tannin, and tincture of perchloride of iron, are of great value, as also are alcohol and vegetable tonics. If sores be present, they may be dressed with antiseptic lotions, and if the head be greatly swollen, foment with warm water, but do not incise the swellings.

Draught (thrice daily).

Quinetum, ℥i.

Tincture of perchloride of iron, f. ʒss.

Water to half a pint.

Pyæmia (Pus in the blood).

This disease is characterized by intermittent febrile reactions, and the formation of abscesses in different organs, which for the most part are secondary to open wounds, or to a collection of pus in some region of the body. It may result from ulcerations of the mucous surfaces, or even where no lesion at all exists. The malady is due to the absorption of a poison, and the impaction of numerous emboli in various parts of the body, and the virus is very probably derived from micro-organisms, or intimately connected with them. The emboli are fragments of thrombus, pus or débris, and contain micro-organisms, and set up inflammation and suppuration in various parts of the body. In the secondary lesions are found the micro-organisms, and these may also be present in the blood; the most usual is the *Streptococcus pyogenes*. Pyæmia often occurs after ulcerations of the intestine and puerperal conditions of the uterus, in which cases it is difficult to apply anti-septic measures with thoroughness. The most useful drugs are quinine, salicine, and the salicylates, arsenic, and iron. Alcohol is valuable, and the wounds, if any, must be very carefully attended to.

Draught.

Antipyretic draught, if the temperature be very high.
(See 'Antipyretics.')

Draught.

Quinetum or sulphate of cinchonine, one drachm and a half.

Tincture of perchloride of iron, half a fluid ounce.

Spirit of chloroform, half a fluid ounce.

Water, sufficient to make six fluid ounces in all.

This draught may be given thrice daily.

Lotion (see 'Antiseptics').

Ointment (see 'Antiseptics').

Quittor.

It is necessary to give free exit to the pus, and the abscess - cavity should be sponged out with a 10 per cent. solution of chloride of zinc. Inject daily a 10 per cent. aqueous solution of mercury to which a few drops of hydrochloric acid has been added. When pain is caused by these injections, they should be stopped. Or spirituous solutions of sublimate, followed by spirituous solution of acetate of lead, may be used. Or a seton soaked in sublimate may be passed to the bottom of the quittor, or even the actual cautery, if great care be exercised not to go too far with it.

To effect a cure, a surgical operation may be necessary (see Möller's 'Veterinary Surgery'). See 'Fistulæ' for formula of application to destroy the walls of the sinuous channels.

Rabies.

This disease occurs in the horse in consequence of a bite of some rabid animal, the virus being transmitted through the saliva. The period of incubation varies from two weeks to forty days in the horse. All rabid animals should be shot, but if it be thought wise to try treatment, the bites should be attended to at once. The part affected should

first be excised, and then cauterized or dressed with a very strong solution of permanganate of potassium or perchloride of mercury, or some other powerful antiseptic.

Renal Calculi.

Diluted hydrochloric acid may sometimes be useful in small doses. Sometimes calculi become impacted in the ureters, and cause degeneration of the kidney and suppuration. The passage of them causes excruciating pain, for which give opium.

Reproductive Organs : Acute Metritis.

Wash out the uterus with diluted Condly's fluid. Give alcohol and other stimulants. If the temperature be high, give salicylate of sodium or quinine, and apply hot fomentations to the abdominal walls. If there be much pain opium is necessary.

Reproductive Organs : Parturient Fever.

A mild oleaginous purgative should be given and followed by draughts containing liq. amm. acet., nitric ether, and salicylate of sodium.

Retention of the Placental Membranes.

These may be removed mechanically, if possible, and ergot of rye given internally.

Retention of the Urine.

Retention is caused by spasm of the neck of the bladder in colic. It is common in cases of paraplegia, enlarged prostate, urinary or urethral calculi, and cancer of the penis, obstruction at the opening of the urethra, prolapse of the uterus or vagina, or by accumulation of fæces in the rectum, or of dirt in the sheath, or by over-distension of the bladder

resulting from the fatigue caused by a long journey. Careful catheterization is necessary, or pressure on the distended bladder by the hand placed in the rectum.

Rheumatism (ῥέω, 'I flow,' giving idea of moisture).

This is a disease usually resulting from cold and damp. Several joints may be affected at the same time or successively, there is elevation of temperature, profuse sweating, and a tendency to inflammation of the endocardium, pericardium, or pleura. Together with the multiple arthritis, there is always some pyrexia, which does not generally rise much above 103° F., oscillates irregularly, and subsides at the same time as the inflammation of the joints. The temperature varies in accordance with the accompanying pericarditis or pleurisy, and may sometimes rise to a great height, constituting hyperpyrexia. Profuse excretion of sweat having a sour smell takes place, but the reaction of the sweat is not always strongly acid, and may even be neutral. The urine is scanty, high-coloured and acid.

A small dose of aloes or a saline purgative must first be given.

Draught (thrice daily in about ten fluid ounces of water).

Potass. bicarb., ℥vi.

Sp. æth. nitrosi, f. ℥i.

Sodii salicyl., ℥iv.

Tinct. colchici, ℥ii.

Liq. amm. acet., f. ℥i.

Locally hot fomentations to the joints, and anodyne lotions of opium, aconite or belladonna, afford great relief. In later stages stimulating liniments may be applied, or even some preparation of cantharides. Tincture of guaiacum is invaluable in certain cases of acute rheumatism. When

the disease has become more chronic, iodide of potassium and quinine may be tried. In cases of muscular rheumatism bromide of potassium is a valuable remedy, and locally anodyne and stimulating liniments afford much relief.

Liniment.

Liniment of belladonna.

Rheumatism (Chronic).

Draught.

Iodide of potassium, one drachm.

Bicarbonate of potassium, six drachms.

Water to make eight fluid ounces.

This draught may be administered thrice daily.

Liniment.

Liniment of iodine, or ordinary 'white liniment.'

Rheumatism (Muscular).

Draught.

Salicylate of sodium, two drachms.

Tincture of opium, one fluid ounce.

Water to eight fluid ounces.

This draught may be given thrice daily.

Liniment.

Liniment of belladonna.

Ringworm.—See **Favus** and **Tinea Tonsurans**.

Roaring—**Laryngismus Paralyticus Atrophica**.

This affection is apparently often transmitted by heredity. It consists of the production of a loud sound during inspiratory acts. Roaring commences at about 3 or 4 years of age, is slight at first, and gradually gets worse. At the begin-

ning of the malady the animal loses control of inspiration, and then of co-ordination of both inspiration and expiration. Moreover, the sound is at first purely laryngeal, but afterwards the vibratory movement of the false nostrils adds to the noise.

In order to detect if a horse be a roarer, ride the horse gently, and then at a steady gallop, or run the animal round and round in a circular run. Roaring is due to atrophy and fatty degeneration of certain muscles of the larynx, especially of those which pass between the arytenoid cartilages and attach them to the cricoid posteriorly. It is really a form of wasting palsy. It often appears after several attacks of sore throat and cold. The roarer generally has a characteristic cough, which is loud, harsh, and dry.

When following influenza, catarrh, or strangles, roaring should be treated with iodide of potassium, quinine, and liquor arsenicalis. The throat should be blistered with ointment of cantharides and biniodide of mercury. Most cases of roaring are due to atrophy and paralysis of the laryngeal muscles. Blisters applied to the skin of the laryngeal region are useful. Chlorate of potassium may be of service. The measures tried are: (1) Electricity, (2) iodide of potassium, in doses of two drachms once daily, combined with tonics, (3) blisters, (4) excision of the left arytenoideus posticus cartilage, together with a small portion of the corresponding vocal cord, (5) tracheotomy.

Draught.

R. Liquor Fowleri, f. ʒii.

Potass. chloratis, ʒi.

Tinct. zingib., f. ʒi.

This draught may be administered with six fluid ounces

of water, or it may be given mixed with the water used for drinking, twice daily.

Ball.

Pulv. nuc. vom., ʒss.

Ferri arsenias, gr. iii.

Quinetum, ʒi.

Ginger and treacle or soft soap to make one ounce, and to be given twice daily.

Powder.

Ferri arsenias, gr. v.

Potass. iodidum, ʒii.

Rupture of Stomach.

As treatment in cases of ruptured stomach is generally useless, it is often best to put the animal out of suffering.

Rupture of Uterus.

Treatment of this condition is generally futile.

Saddle-Galls, Prevention of.

Leave the saddle on for three-quarters of an hour after dismounting, so as to allow the circulation to become gradually restored. Cooling lotions, or cloths steeped in cold or warm water—cold if applied immediately after the swelling, warm if twelve or more hours have elapsed.

Massage by gentle stroking of the fingers, or the application of warm linseed-oil or of poultices, may be beneficial.

It is best to leave off using the saddle until the wound is closed and the swelling gone, and then a smooth piece of waxed linen should be sewn into the parts of the under surface of the flaps which touch the cicatrices.

Scarlet Fever, or Scarlatina.

May occur after some other general debilitating disease, such as influenza or strangles. Vesicles appear on the skin, and petechial spots on the mucous membrane of the nose and mouth, together with sore throat and swollen cervical glands. The petechiæ are minute spots, and may form patches of a scarlet hue, whereas in cases of purpura they are of a dark purple colour. Sore throat is a symptom of scarlet fever, but is not usually present in animals suffering from purpura. In scarlet fever there is often swelling and sometimes suppuration of the glands, especially the sub-maxillary and bronchial glands, whereas in cases of purpura this does not occur. Sloughing of various parts of the body is characteristic of purpura.

Draughts similar to those prescribed for influenza may be of use. It is generally best to begin treatment with a gentle laxative, and then to give a little of the sulphite or of the salicylate of sodium in the drinking water. Foment or poultice the throat if necessary.

Draught.

Sodii salicylas, ℥ii.

Liq. amm. acet., f. ℥ii.

Sp. æth. nit., f. ℥ss.

Sp. camphoræ, f. ℥ii.

Give in half a pint of water thrice daily. Follow up with quinine and vegetable tonics and sulphate of iron twice daily, to facilitate the regaining of strength. If suppuration be detected, the abscess may be opened, but the swellings on the limbs should not be interfered with.

Scrofula.

This name is somewhat vague, but is used to mean a constitutional condition leading to a chronic inflammation of certain tissues, leading to an impaired blood-supply and caseous changes. It is probably in reality a tubercular process, for the tubercle bacilli are found in scrofulous products ; but, on the other hand, it may be argued that these chronic inflammations may afford a suitable nidus for the growth of the germ. In horses scrofula and tuberculosis are not frequently met with, but arthritic disease occurs in young horses, and tubercle is found in the lungs, pleura, and abdominal glands of horses.

Sedative Lotion.

R. Acid. hydrocyan. dil., f. ℥ii.

Aquæ, ad f. ℥viii.

This lotion may be applied morning and night to the affected parts of animals suffering from itching, prurigo, and so forth.

Septicæmia.

This term is used to signify a condition of blood-poisoning by absorption from decomposing wounds or other foci, but without the formation of secondary abscesses, as in cases of pyæmia. The signs, which occur in varying degree, according to the amount of poison absorbed, are fever, high temperature, prostration, quick and feeble pulse, dry tongue, delirium, and stupor.

The treatment is similar to that of pyæmia.

Small-Pox of Horse.—See **Horse-Pox.**

Sore Teats.

Ointment of boric acid mixed with vaseline.

Sore-Throat—Pharyngitis.

Draughts (same as those prescribed for Laryngitis).

Gargles (same as those prescribed for Aphtha).

Liniment (liniment of ammonia and turpentine—see ‘Counter-irritants’).

Spasm.

Draughts (see ‘Antispasmodics’).

Spavin (Bone) and Splints.

Ointment of red iodide of mercury (see ‘Counter-irritants’).

Spinal Cord and its Membranes, Inflammation of the.

Give a purgative, and in some cases bleed. Apply liniment of belladonna on hot cloths to the loins. Give belladonna, ergot of rye, iodide of potassium, and stimulants. In some cases the actual cautery may be applied on both sides of the spine. If blisters be used, avoid cantharides. Give sulphate of quinine thrice daily, and use the catheter twice or thrice daily. If there be sclerosis of the nerve-centres, try small doses of nux vomica, with tonics and iron.

Splenic Apoplexy.—See Anthrax.**Sprains (in Early Stage).**

Cooling Lotions (see ‘Cooling Lotions’).

Sprains (in Later Stage).

Counter-irritants (see ‘Counter-irritants’).

Staggers.

Stomach Staggers (see 'Indigestion, Acute').

Grass Staggers (see 'Paraplegia, Reflex').

Mad Staggers (see 'Encephalitis').

Stomach, Acute Inflammation of the—Gastritis.

If this condition be due to the ingestion of a poison, an antidote is necessary. The food should be restricted in amount, and opiates be given if there be pain.

Stomach, Chronic Inflammation of the.

The treatment of this condition is similar to that of chronic dyspepsia.

Stomach, Rupture of the.

Treatment is of no avail, and it is best to put the animal out of further suffering.

Stomatitis.

First give a mild purge, and then bicarbonate of potassium with tonics. Chlorate of potassium (15 grains to the fluid ounce of water) or carbolic acid (1 in 40) are useful locally. If ulcers be present, they may be touched with a solution of sulphate of copper (20 grains to the ounce) or nitrate of silver (10 grains to the ounce).

For draught and gargles see also 'Aphtha.'

Stomatitis Pustulosa.

Draught.

R. Liq. ferri perchloridi, f. ʒi.

Glycerini, f. ʒi.

Aquæ, ad f. ʒx.

Strangles.

This is a specific febrile disorder, in which there are accumulations of pus in the connective tissue of the sub-maxillary region and neighbouring glands, and inflammation of the air-passages.

The infected animals should be isolated, and the contaminated stables disinfected with burning sulphur or iodine on coals, or by disengaging chlorine gas. The diseased animals should be placed in moderately warm and well-ventilated loose-boxes. The diet should be laxative, and consist of mashes, linseed gruel, roots, and grass. The following draught may be given :

Solution of acetate of ammonium, four fluid ounces.

Spirit of nitrous ether, one fluid ounce.

Bicarbonate of potassium, four drachms.

Water to one pint.

If there are severe throat-symptoms, allow the horse to breathe the vapour of hot water to which oil of eucalyptus or carbolic acid has been added. Ammoniacal liniments, or even a cantharides blister, may have to be applied to the throat. Fresh hot poultices, renewed every hour, are very useful. In cases of strangulation it is necessary to make an incision into the trachea at the junction of the upper and middle thirds, insert a tracheotomy tube, and fix it with a tape. When an abscess is being formed, blisters or poultices should be applied. After being opened, the abscesses must be kept clean with suitable antiseptics—*e.g.*, carbolic acid, 1 in 25 of water, and in the case of malignant strangles antiseptic medicines, such as the salicylate or the sulphite of sodium, coupled with stimulants, are of great value.

Draughts (same as those given in cases of Influenza.)

Gargles (same as those given to animals suffering from Aphtha).

Strangury.—See **Hæmaturia.**

Stringhalt.

Same formulæ as those mentioned under the heading of 'Anæmia.'

Surfeit.

Draught.

Bicarbonate of potassium, six drachms.

Spirit of nitrous ether, one fluid ounce.

Water to six fluid ounces.

This draught may be given twice daily.

Draught.

Powdered ginger, two drachms.

Spirit of nitrous ether, one fluid ounce.

Water sufficient to make seven fluid ounces in all.

Lotion.

Diluted hydrocyanic acid, three fluid drachms.

Solution of subacetate of lead, one fluid ounce.

Water sufficient to make ten fluid ounces in all.

Surra.

This is an enzoötic disease caused by a special animal parasite present in the blood, and characterized by emaciation, dropsical swellings, elevated temperature, and extravasation into the visible mucous membranes. The parasite is probably taken into the system by the medium of the

water drunk. Perchloride of mercury in small doses or the salicylates may be useful.

Synovitis.

Draught.

Same as that mentioned under 'Fever,' or, if the temperature be very high, the 'Antipyretic draught' may be given.

Lotion.

Cooling Lotions (see 'Cooling Lotions').

N.B.—The joint may in the first instance be shaved, and then well bathed with a solution of sugar in warm milk, and then leeches may be applied.

Tapeworm—*Tænia*.

Draught.

Liquid extract of male fern, half a fluid ounce.

Oil of absinthe, half a fluid ounce.

Oil of turpentine, half a fluid ounce.

Linseed-oil, half a fluid ounce.

This draught may be given once daily.

Draught.

Oil of turpentine, one fluid ounce.

Liquid extract of male fern, half a fluid ounce.

Linseed-oil, sufficient to make eight fluid ounces.

This draught may be given once daily.

Tetanus (*τείνω*, 'I stretch').—Locked Jaw.

This most interesting and important disease is manifested by tonic contraction of most of the muscles of the body with paroxysms of increased contractions now and again. It is generally purely traumatic in origin, but may be due to cold and damp in great part (rheumatic tetanus) whether

there be a wound or not, or finally it may be of a purely idiopathic nature, and may even assume an epidemic character. It is really due to a toxic influence on the spinal cord, and is caused by the bristle bacillus of Nicolaier, which occurs in certain soils, since the disease and the germs producing it are developed in animals when such earthy material is injected subcutaneously. This bacillus multiplies in chief measure in the proximity of the wounds, and produces a poison to the action of which the symptoms are doubtless due. The disease has been produced in animals by inoculation with virus taken from the wound of human beings affected with tetanus.

The best remedies seem to be nicotine or tobacco, morphia, hydrate of chloral, the bromides, and inhalation of chloroform. Commence treatment with a purgative, wash the wound, sling the horse loosely, and in cases following docking it is well to re-dock carefully.

The following remedies, in proper doses, may be given alternately, as judgment and discretion may direct.

- (1) Bromide of potassium, two drachms. To be given thrice daily.
- (2) Chloric ether, one fluid ounce. As may be necessary.
- (3) Fleming's tincture of aconite, from five to ten minims.
To be given thrice daily.
- (4) Powdered tobacco, three drachms. Thrice daily.
- (5) Monobromide of camphor, two drachms. Thrice daily.
- (6) Salicine, one drachm. Thrice daily.

Powder.

Monobromide of camphor, two drachms.

Aniseed, one drachm.

Sugar, two drachms.

This powder may be given in the food thrice daily.

Hypodermic Injection.

Fleming's tincture of aconite, ten minims.

This tincture may be injected subcutaneously every six hours in the early stages, in traumatic cases, in addition to the administration of the powder.

Hypodermic Injection.

Nicotine, one to two grains in solution.

This injection may be used every six hours.

Draught.

Hydrate of chloral, four drachms.

Water to six fluid ounces.

This draught may be given in milder cases instead of the powder. In ordinary cases it may be administered as well as the powders.

Throat, Sore.—See **Sore-Throat.**

Thrush.—See **Aphtha.**

Thrush in the Frog.

Lotions.

(1) Jeye's fluid.

(2) Carbolic acid, one fluid part.

Glycerine, four fluid parts.

Powder.

Calomel, one part.

Iodoform, one part.

Starch, one part.

Tinea Tonsurans—Ringworm.

Ointments.

(1) Iodine ointment (B.P.).

(2) Ointment of iodide of sulphur.

- (3) Iodine, one drachm.
Ointment of sulphur, one ounce.
- (4) Oleate of copper, one part.
Lard, four parts.
- (5) Oleate of mercury, one part.
Lard, two parts.

Lotions.

- (1) Solution of sulphate of copper, one pint.
Sulphurous acid, one fluid ounce.
This lotion is to be applied to the affected parts.
- (2) Sulphurous acid, f. $\text{̄}ii$.
Glycerine, f. $\text{̄}iv$.
Water, f. $\text{̄}iv$.

Ulcerated Tongue.

Simple ulceration of the tongue may be touched with solution of nitrate of mercury, or with this mixed with diluted nitric acid, or even with nitric acid itself. For Actinomycosis see that heading.

Umbilical Hernia.

(1) *Trusses*.—A tampon of tow steeped in Venice turpentine is put on the hernia, and fastened by a girth round the body.

(2) *Caustics*, *e.g.*, mustard, acids, actual cautery, blistering ointments, subcutaneous injection of $1\frac{1}{4}$ ounces of 15 per cent. salt solution about an inch in front of, and also behind the rupture, or of $4\frac{1}{2}$ ounces all round the ring. Acids are better than blisters. Nitric and sulphuric acids mixed in equal parts, and diluted with about four pints of spirit, may be rubbed into the hernial sac daily, for about six days. If the concentrated acid be used, it must be

applied with a glass rod in lines about $\frac{3}{4}$ inch apart, and only twice. Concentrated sulphuric acid has been applied with a brush to the entire surface of the sac twice, beginning at the outermost part, and not putting much on the lowest portion.

This treatment is only applicable to small herniæ in young animals, about as large as a hen's egg, and where only two fingers can be placed in the hernial opening.

(3) *Radical Treatment*.—See Möller's or Fleming's 'Veterinary Surgery.'

Urinary Calculi.

Retention and decomposition of the urine are liable to cause an alkaline condition and deposit, which may occur in the pelvis of the kidney, pass into the bladder, and perhaps become fixed in the urethra. There are generally several calculi, which may be small (gravel).

In herbivorous animals they generally contain triple phosphate and carbonate of calcium; in sheep some consist of silicic acid with phosphates of calcium and magnesium.

In carnivora these are :

(1) Uric acid calculi (phosphate and carbonate of calcium, and urate of ammonium).

(2) Oxalic acid calculi (oxalate of ammonium), are yellow, and resemble a mulberry.

(3) Cystic calculi are yellow, soft, and when dried, friable, and feel greasy.

See works on Veterinary Surgery.

Urine.

Benzoic acid, after being ingested, is transformed into, and excreted as, hippuric acid. The pigments of the urine are derived from the bile-acids. The vegetable salts of the

alkalies are converted into carbonates in the body. The specific gravity varies from 1015 to 1035. In cases of diabetes insipidus, it may be only 1002. If it be below 1015, albumen is probably present, and if it be above 1035, sugar should always be suspected. The specific gravity is high in the first stage of acute fevers. The amount of urine is increased in cases of diabetes and in convulsive conditions, and when the blood-pressure is high, also in cases of cardiac hypertrophy. It is generally diminished in dropsical patients.

Urine, Incontinence of.

Catheterization may be useful so as to empty the bladder. When this disorder is due to paralysis, nux vomica and tonics may be tried.

Urticaria.—See Surfeit.

Vaginitis.

Emollient and antiseptic lotions, such as that of boric acid and Condyl's fluid, are useful.

Variola Equina.

Salines and febrifuges may be given, and the food should be laxative. If the mouth be sore, wash it out with an aqueous solution of carbolic acid (1 in 150) or with a weak solution of sulphurous acid, or of permanganate of potassium. In order to prevent the spread of the disease, thorough disinfection of the stables and other out-buildings should be carried out by means of the fumes from burning sulphur or iodine or by chlorine gas.

Verminous Aneurism.

Occurs in many horses and asses, especially in the aorta and anterior mesenteric artery. These aneurisms vary in

size from that of a pea to that of a man's head, and occur in animals six months old and upwards. There may be from nine to twelve worms in one aneurism, and in one horse there may be several of these aneurisms. *Strongylus armatus* is the worm in question.

Vertigo.—See Megrim.

Villitis.

Draught (same as in Laminitis).

Warts.

Mixture (for External Application).

Sulphuric acid, one fluid part.

Sulphur, one part.

Mix well, apply to the warts carefully for ten minutes or so, and then rub the mixture off. Some persons prefer to use nitric acid or plain sulphuric acid for this purpose.

Whistling.

Ball.

Iodide of potassium, two drachms.

Ginger, gentian, and treacle, sufficient to make a one-ounce ball.

Wind-sucking.

Draught, Ball, or Powder (same as those mentioned under 'Acidity of the Stomach').

Withers, Injuries to the.

A good plan is to use cold applications at first, without pressure, which causes pain, and without massage, which favours further hæmorrhage into the sub-cutis. After a day has elapsed, warm fomentations and poultices are best,

adding sublimate solution (1 in 1,000). If large hæmatomata have formed, it is well to remove the contents with a Pravaz's syringe, having first disinfected both the skin and the instrument. After removal of the extravasation, an antiseptic dressing should be applied with a moderate degree of pressure. Sometimes a blister of cantharides, or perchloride or biniodide of mercury is preferable to the knife either over the affected spot or near it.

If there be bursitis over the withers, an exploratory trocar may be passed, and after removal of the serum or blood, compresses applied. Or rubbing in sublimate ointment (1 to 10 of lard) may be tried near the affected spot or over it.

Sore places should be cleaned and powdered with a mixture of iodoform and starch or tannic acid. When healing has occurred, the collar should be provided with a soft covering of waxed cloth or hare-skin.

Withers, Fistulous.—See **Fistula**.

Worms in the Digestive Organs.

Tapeworms.—Oil of male fern, oil of absinthe, or oil of turpentine.

Nematodes.—Aloes with one drachm of antim. pot. tart., and followed by tonics, sulphate of iron, and santonine. The water-supply and the drainage should both be investigated, and on all worms passed boiling water should be poured.

Strongylus tetracanthus.—Give a purge and follow up with tonics and stimulants.

Oxyuris curvula.—Cathartics and medicated enemas.

Oxyuris vermicularis or *Trichocephalus dispar*.—Inject infusion of quassia or diluted tinct. ferri perchloridi.

Tænia marginata of the dog has its bladder condition in man, monkey, sheep, and horses.

Tænie.—Liquid extract of male fern (about ʒiiss for a horse) or decoction of pomegranate root (about four pints for a horse), in either case followed by a purge.

Wounds.

Draught.

Fever or antipyretic draught, if necessary (see ‘Fever’ and ‘Antipyretics’).

Lotion and Ointment (see ‘Antiseptics’).

Lotions.

(1) Sulphate of zinc, six drachms.

Water, sufficient to make six fluid ounces of solution.

(2) Sulphocarbolate of zinc, three drachms.

Water sufficient to make six fluid ounces of solution.

THE END.

